THE FAUNA OF BRITISH INDIA

INCLUDING

CEYLON AND BURMA.

PUBLISHED UNDER THE AUTHORITY OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL

EDITED BY SIR ARTHUR E. SHIPLEY, G B E , Sc D Cautab , HON D.So. Princeton,
HON LL D Michigan, F.R 8

ASSISTED BY HUGH SCOTT, M A., Sc D Cantab , F E S.

COLEOPTERA. CHRYSOMELIDÆ

(CHRYSOMELINÆ AND HALTICINÆ)

BY

S. MAULIK, M.A. Cautab, F.ZS, FES,



Originally Published 1926 LONDON, TAYLOR AND FRANCIS

Price Rs. 150 US \$. 30

Published by TODAY & TOMORROWS PRINTERS & PUBLISHERS 24B/5, Karol Bagh, New Delhi-110005(INDIA)

Printed by
Prince Offset Printers
Pataudi House, Daryaganj, Delhi(INDIA)

CONTENTS.

		Page
AUTHOR'S PREFACE		V
Systematic Index	•	13
ERRATA	•	xiv
Introductory Remarks on Chrysomelipæ .		1
Introduction to Subfamily Chrysomelinæ		2
External Structure		3
Larvæ and Notes on the Life-history	•	5
Viviparity in Chrysomelinæ	•	11
Economic Importance	•	12
On the Formation of Keys or Tables .		13
Key to the Genera of Indian Chrysomelinæ	٠	16
Descriptions of Genera and Specifs	٠	17
Introduction to Subfamily Haltioinæ		97
External Form and Structure		98
Notes on Life-histories and Larvæ		101
Structure of the Larvæ	•	106
Economic Importance	•	110
Key to the primary Sections of Indian Halticinæ	•	114
Section I, Descriptions of Genus and Species		114
SECTION II, DESCRIPTIONS OF GENUS AND SPECIES		124
SECTION III, KEY TO SUBSECTIONS		130
SECTION III, KEY TO GENERA OF SUBSECTION I .		180
DESCRIPTIONS OF GENERA AND SPECIES		130
SECTION III, KEY TO GENERA OF SUBSECTION II		145
DESCRIPTIONS OF GENERA AND SPECIES		145
SECTION III, KEY TO GENERA OF SUBSECTION III		174
DESCRIPTIONS OF GENERA AND SPECIES		177
SECTION III, KRY TO GENERA OF SUBSECTION IV	·	283
DESCRIPTIONS OF GENERA AND SPECIES		286
Alphabrtical Index	•	433
INDEX OF PLANTS	•	441
FOLDING MAP OF INDIA AND CFYLON.		***

AUTHOR'S PREFACE.

003000

THE present volume torms a continuation of my study of the CHRYSOMELIDÆ of India, Burma and Cevlon, and is my second contribution to the "Fauna of British India" series*. As before, the work has been done in the British Museum (Natural History), where I have had the opportunity of studing Baly's and Jacoby's types as well as much undetermined material: and I wish to thank the authorities of that institution for allowing me continual access to the reserve collections. Besides the British Museum collections I have examined other material of the groups treated in this book, from various sources: from the Indian Museum, Calcutta, I have received more than one consignment; the collections of the Pusa Agricultural Research Institute were sent by Mr. T. Bainbrigge Fletcher. through Dr. Hugh Scott; Dr. C. F. C. Beeson, of the Dehra Dun Forest Research Institute, has on several occasions sent to me small series of specimens; Mr. G. C. Champion has handed over to me from time to time the interesting captures made by his son, Mr. H. G. Champion, in the Himalayan forest districts; Mr. G. M. Henry, of the Colombo Museum, sent me a small collection; while I have also seen the Indian CHRYSOMELIDÆ belonging to the late Mons. Julien Achard of Prague, whose recent death must occasion many regrets By correspondence I have obtained assistance from Dr. Walter Horn of Beilin,

^{*} My first was the volume on Hispinæ and Cassidinæ published in July, 1919

Dr. Kranz Heikeitinger and Dr. K. Holdhaus of Vienna, Dr Kai L Henriksen of Copenhagen, Mons P Lesne of Paris, Mous Severin of Brussels, and Professor G. Jacobson of Leningrad (through the good offices of Dr. B Uvarov). It is a pleasure to express my warm thanks to all persons concerned

As to the determination of specimens, in most cases I have seen the types, while in those cases where I have not had the opportunity of seeing the types the fact is stated at the end of the description of the species. In this connexion I wish to record my thanks to Di R. Gestro, of the Genon Museum, who, with his usual courtesy, loaned me several types from the Fea Collection I have also seen types or co-types belonging to Mi H E Andrewes, which are now incorporated with the main collection of the British Museum, and to him also my thanks are due.

As regards Motschulsky's species, a few are incorporated in the body of this work and in the dichotomous kevs. for reasons stated under each species. The rest are recorded only by means of translations into English of the original diagnoses. These latter species (together with a few species of doubtful position described by other authors) find no place in the keys nor in the consecutive numbering of species throughout the volume. Formerly it was believed that Motschulsky's types were completely lost, but it is now known that some of them, at least, have been recovered, and these are conserved in the Museum of the University of Moscow*. Owing to the difficulty experienced by entomologists in dealing with these species described by Motschulsky, it is, I think, urgently necessary that a report should be published on the present condition of his collection This object could easily be achieved if the authorities of Moscow University could see their way to lend the collection to the British Museum, where

By a misapprehension Mr G J Arrow stated in the preface of his volume on EROTYLIDE, etc., published in this series in March, 1925, that Motschulsky's types are in Petrograd (Leningrad)

the specimens could be cleaned and properly remounted, and a report could be drawn up by specialists working on the various groups, after which the whole collection could be returned to Moscow. I have made this suggestion in order to draw the attention of Russian entomologists to the question of placing Motschulsky's species on a surebasis once for all.

In drawing up the accounts of the economic relationships of the two subfamilies treated in this book and of the life-histories of the pests which they include, I have consulted the 'Review of Applied Entomology,' and I wish to record my appreciation of the kindness of Dr. G. A. K. Marshall, C.M G, F.R.S., in giving me permission to make extracts from that journal, and also of that of Dr. S. A. Neave in allowing me to use the library of the Imperial Bureau of Entomology.

Circumstances have rendered it necessary to employ a number of artists, to each of whom my thanks are due. The task of illustrating the volume was begun by Mr. A. J. Engel Terzi, but he was unable to continue, and it is to be regretted that all the drawings did not emanate from the master's brush. Gratitude is, however, especially due to Miss Violet W Borrow, who has admirably executed the greater part of the work. Actually the original drawings were distributed among the various artists as follows: by Mr. Terzi, figs. 1-7, 14, 16-19, 23-28, 35; by Miss Borrow, figs. 8, 15, 34, 40-46, 48-58, 60-80, 82, 85-87, 89-91, 94-99, 103-130, 132-138; by Miss Vere L. Temple, figs. 84, 92, 93, 102, 131, 139; by Mr. P. Highley, figs. 36-39; by Mr. R. N. Field, figs 81, 83, 88, 100, 101; by Mr. Atul Bose, figs. 9-13, 20-22, 29-33, 47, 59

I am deeply indebted to the editors, particularly to Dr. Hugh Scott, whose criticisms and suggestions have been very helpful and whose editorial punctiliousness and scientific precision have saved me from errors and discrepancies.

I wish to thank Messrs. J. H. Durrant, W. H. T. Tams, N. D. Riley, K. G. Blair, and G. J. Arrow, all of the

British Museum, and Mr. G. E. Bryant, of the Imperial Bureau of Entomology, for courtesy shown me while I was working in the Museum.

In this book, as elsewhere, I have introduced many new names which are derived from Sanskrit roots. This procedure has enabled me to save time which must otherwise be spent in bibliographical research in order to find out whether a name is already preoccupied or not. The sole responsibility for the derivations and meanings (given in the footnotes) of such new names rests with me. In my previous volume the derivations of new names were not given, but in the present case I have thought it best to do so, though the practice has been applied only to those of Sanskrit origin, and has not been extended to names of new species which are derived from Greek or Latin sources and which are familiar by long use in zoological nomenclature.

London, February, 1926 S. MAULIK.

SYSTEMATIC INDEX.

	_	·	
1	age		age
Order COLEOPTERA .	1	4 baly1, Jacoby	53
	_	5. Sphærolina, Baly	53
Fam Chrysomelidæ	1	1 rajah, Guérin	54
Subfam 1 Chausamalus a	2	2. templeton, Balg	55
Subfam 1 Chrysomelinæ		6. Agasta, Hope	56
1 Chrysolina, Motschulsky	17	1 formosa, Hope	56
1. exanthematica, Wiede-		7 Phaedon, Latrelle	59
mann	22	1. assamensis, Jacoby	59
2 vishnu, Hope	23	8. Plagrodera, Redienbacher .	60
3. indica, Jacoby	24	1 versicolora, Laicharting.	61
4 longicornis, Maulik	25	2 marginipennia, Jacoby .	62
5 carmata, Jacoby .	26	3. miniaticollis, Hope	63
6 manipurensis, Maulik	27	4 micantipennis, Stal	64
7 dohertyi, Maulik .	27	5 rufescens, Gyllenhal	64
8 templeton, Baly.	28	6. divisa, Jacoby	66
9 krishnu, Baly	29	7 transversa, Olimer	67
10 ceylonica, Maulik .	30	9. Chrysomela, Linnaus	67
11. andrewesi, Jacoby	31	1 populi, Lunnæus	68
12 fulvomnes, Jacoby	81	2 chlorina, Maulik	69
13 madrase, Jacoby	32	10. Paropsides, Motschulsky	71
14 cœlestina, Baly	33	1 pardalis, Jacoby	72
15 cornlipes, Harold	34	2 duodecim pustulata,	12
16. inconstans, Wiedemann	85	Gebler von hanneler	
17 conglomerata, Mauhk .	87	Gebler, van hierogly- phica, Gebler	70
18 karachia, Maulik	38		73
10 stores Date	39	8. nigropunctata, Jacoby 4. chennelli, Baly	74 76
20 bella, Jacoby	39	11. Phytodecta, Kn by	
21 coromandeliana, Maulek	40	abre sentalendes Tracke	77
22 aurata, Suffrian	41	1 chrysomeloides, Jacoby	78
23 perforata, Redienbacher.	43	2. manipuma, Maulik	79
24 numbers Star	43	3 siva, Maulik	80
24 pyrrhopyga, Stal 25 nepalensis, Hope	48	4 trilochana, Maulik	81
2 Ambrestone Metalala		12 Phyllodecta, Kn by	83
2 Ambrostoma, Molschuleky.	44	1 abdominalis, Baly	88
1 mahesa, Hope	44	13 Lycaria, Stal	85
3 Paralina, Baly	46	1 westermann, Stal	85
- managed and of the	47	14. Chalcolampra, Blanchard .	86
	48	1 octodecimguttata, F.	87
4. Eumela, Baly 1 cyanicollis. Hone	49	2. dipa, Maulik	89
	50	15 Pseudolina, Jacoby	90
2 transversicollis, Maulik	52		90
3 assamensis, Weise	52	2. rama, Maulik	92

	Page		Dage
16 Potaninia, Weise	92	4 nilgiriensis, Jacoby	Page
1 assamensis, Baly	93	5 shima, Maulik	153
2 collaris, Weise .	94	6 monhots, Baly	158
17 Entomoscelis, Cheviolat	94	7 decemniaculata, Mauli	L 155
1 metallica, Baly	95	8 signata, Dummer	155
18 Apaksha, Maulth	95	9. Hyphasoma, Jacoby	156
1 himalay ensis, Maulik	96	1 bevanı, Baly	. 159
		2 nilapita, Maulik	160
Subfam 2 Halticinæ	97	3 submetallica, Jacoby .	. 161
Section I	114	4 thoracien, Jacoby.	162
		5 balyı, Jacoby	162
1. Nonarthra, Baly	114	6 tenuilmhatus, Jacoby	163
1 variabilis, Baly	116	7 femoralis, Jacoby	164
2 patham, Maulik .	119	8 distincts, Jacoby .	164
3 dhumala, <i>Naukk</i>	121	9 indica. Baly	165
4 dakshina, Maulik .	121	10 sita, Maulik.	166
5 birmanica, Jacoby	122	11. dhusara, Maulik	167
6 limbatipennis, Jacoby	122	12 obscuripennis, Jacoby	168
7 apicalis, Jacoby .	123	18 limbatipennis, Jacoby	169
8 ceylonensis, Jacoby .	128	14 discipennis, Jacoby .	169
Section II	. 124	15 discoidulis, Jacoby	170
	. 124	16 parvula, Jacoby	170
2 Psylhodes, Latrelle	124	17. nigricornis, Baly	171
1 palleola, Motschulsky	125	18 mornata, Jacoby	172
2 viridana, Motschulsky	126	19 unicolor, Jacoby	172
3 brettinghami, Baly	126	20. intermedia, Jacoby .	173
4 shira, Maulik	128	21 mconspicus, Jacoby	173
5 plans, Manlık	128		174
G tenelmosus, Jacoby	129	Section III Subsection III	
Section III Subsection I	130	10 Euphitren, Baly .	177
		1 indica, Jacoby	178
3. Laprus, Motschulsky	130	2 fovercollis, Jacoby	179
1 assamensis, Maulik .	131	[birmanica, Harvld	179]
2 fulvoniger, Maulik	192	11. Acrocrypta, Baly	180
4 Epitrix, Fondi as	183	1 intermedia, Jacoby	180
1 lomasa, Maulik	134	2 momerta, Mauhk	181
5 Demarchus, Jacoby	185	3 assamensis, Jacoby	182
1 pubipennis, Jacoby	136	12 Glaucosphera, Maulth	183
6. Hespera, Wesse	187	I cyanea, Duvivier	183
1 serices, Weise	139	18 Cerotrus Jacoby	185
2 ruhpe-, Maulik 3 cyanea, Maulik	189 140	1 nigromarginatus, Jacoby	187
4 rufithora, Maulth	141	2 apicalis, Jacoby 14 Chalmosoma, Jacoby	187
	142		188
5 lomasa, Manhk 6 nigripes, Manlik		1 fulvitaris, Jacoby	189
6 nigripes, Maulik 7 krishna, Maulik	148	2 antennata, Jucoby .	190
8 dekahing. Maulik	144	8 viridis, Jacoby	190
	}	4 cupres, Jacoby	191
Section III: Subsection II	145	5 metallicum, Jacoby 15 Oleonica, Jacoby	192
7 Hyphasis, Harold .	145	1 neces Machi	192
1 magice, Harold	147	1 nagaja, Maulik 16 Mesopa, Jacoby	194
8 Philopona, Weise	148		195
1 birmanica, Jacoby	150	1 fulvipes, Jacoby 17 Bimala, Maulik	195
2 mandala, Maulik	150	1 indica, Jacoby	196
3 mornata, Jacoby	151	18 Micraphthona, Jacoby	197
			,

Micraphthona (con.)	age		Page
	197	28. Xuthea, Baly.	246
19. Eudolia, Jacoby	198	I omentalis, Baly :	246
1. himalayensis, Maulik	199	2 metallica, Jacoby	249
2 mla, Maulik .	200	29 Amphiniela, Chapus	250
3 1atula, Maulth	201	1 mouhots, Chapus .	250
20. Chatocnema, Stephens	202	30 Chtea, Baly	252
1 pusaensis, Maulik .	205	1 picta, Baly	252
2 hirmanica, Jacoby	206	2. indica, Jacoby	254
3. concinnipennis, Baly	207	31. Kamala, Maulik .	255
4 nagpurensis, Ducivier	208	1 apicipennis, Jacoby	256
5 duvivien, Jacoby	±08	2 violaceipennis, Jacoby	257
	209	8. rugicollis, Jacoby	258
7 subcostata, Jacoby .	210	4 lævicollis, Maulik.	258
	211	[flavipennis, Motschulsky	259]
9 harsta, Maulik	211	32 Neorthaea, Maulik .	289
10 bretinghami, Baly .	212	1 fulva, Jacoby	260
	212	2. subglobosa, Hope .	262
19 sticta, Maulih	218	8 micans, Baly .	263
	214	4 viridipennis, Jacoby	264
	215	5 burmanica, Jacoby	264
lo kanika, Muulik .	216	33 Sphæropleura, Jacoby	205
16 cogneta, Baly .	216	l tricostata, Jacoby	265
17 alticola, Mauhk	217	34. Elytropachys Motschulsky	267
18. belli, Jacoby	218	I latiesima, Motschulsky	268
[nigrica, Motschulsky	2197	[dimidiata, Motschulsky	268]
puncticellis, Motsch-		viildescens. Motschulsku	2697
ulaky	220]	obscurata, Motschulsky.	269]
[gracilis, Motschulsky	220]	dorsalis, Motschulsky	2697
21. Podontia, Dalman .	220	35 Panilurus, Jacoby .	269
1 lutea, Olivier	222	1 miguriensie, Jacoby .	270
2 rufocastanea, Baly	223	86 Erystus, Jacoby	271
3 prialohita, Muulik	224	1 andamanensis, Maulth	271
4 congreguta, Baly .	224	37 Podagrica, Foudias	273
5 quatuordecimpunctata, L	225	1 ceylonensis, Jacoby .	07/
6 affirms, Grondal	227	2. cardoni, Jacoby	275
22 Ophrida, Chapias	228	3 badia, Harold	275
I hirauta, Stehbing	230	4 semicærulen, Jacoby	276
2 marmores, Wiedemann	231	5 striatipennis, Jacoby	277
3 flavopustulata, Baly	232	6 mgripennis, Jacoby	277
4 binduta, Maulik	233	7 bowrings, Baly .	278
23 Crepidodera, Chevrolat	234	8 madurensis, Jacoby	279
1 minuta, Jacoby	235	9 doherty, Maulik	280
2 obscurofasciata, Jacoby	236	38 Phelota, Jacoby	280
3 orientalis, Jacoby .	236	1 semifasciata, Jacoby	281
4 nigripennia, Motschulsky	237	39 Aphthonella, Jacoby	281
	237]	1 bhamoensis, Jacoby .	282
24 Asutosha, Maukk.	238	Section III Subsection IV	283
1 divaina, Moulik.	23×		
25 Gopala, Maulik	240	40 Pseudaphthona, Jacoby .	286
1 pita, Maulik .	240	1 humeralis, Jacoby	287
26 Griva, Manlık	241	41. Pentamesa, Harold	288
1 cyampennis, Jacoby.	242	1 duodecummaculata, Haroi	
27 Pseudodera, Baly	243	2 harolds, Baly	291
1 orientalis, Baly	244	8 trigrapha, Maulik	292
2 bilasciata, Jacoby	245	4 cribellata, Weise	293

Paradibolia, Baiy		Page		Dama
1 mdaca, Baly 2 migripennis, Mišechuleky 388 2 mla, Maulik 296 3 Argopistea, Motschulsky 296 3 Iampiotes, Maulik 297 2 quadrimaculatins, Jacoby 300 3 bistripunctata, Diviruse 298 3 bistripunctata, Juviruse 299 4 nigromarginstus, Jacoby 301 1 septempunctata, Juviruse 301 1 septempunctata, Juviruse 301 1 septempunctata, Jacoby 301 1 septempunctata, Jacoby 301 1 septempunctata, Jacoby 301 1 limina, Maulik 342 1 nigronotatis, Jacoby 302 45 Jacobyana, Maulik 302 46 Lanka, Maulik 304 1 biunnea, Jacoby 305 1 cesionensis, Jacoby 307 1 ceriabilis, Jacoby 308 40 Amphimelodes, Jacoby 309 41 dorsalis, Jacoby 309 42 Amphimelodes, Jacoby 309 43 Amphimelodes, Jacoby 309 44 Charlis, Jacoby 310 50 Parathivlea, Duvine 310 51 Chabra, Jacoby 312 52 nigroplagiata, Jucoby 313 52 nigroplagiata, Jucoby 313 52 nigroplagiata, Jacoby 312 53 decemplagiata Muulik 315 52 Sphieroderma, Stephens 316 52 Sphieroderma, Stephens 316 53 geninata, Jacoby 321 54 geninata, Jacoby 322 7 migrita, Jacoby 323 8 brevicormis, Jacoby 324 10 antennata, Jacoby 325 12 birman ca, Jacoby 326 13 picecollis, Jacoby 327 16 mandarenis, Jacoby 328 17 fulvipennis, Jacoby 327 16 mandarenis, Jacoby 327 16 mandarenis, Jacoby 328 17 fulvipennis, Jacoby 329 18 pirusa, Jacoby 327 19 pirusa, Jacoby 328 10 rivindipennis, Jacoby 329 11 virinpennis, Jacoby 329 12 pirusa, Maukik 349 13 pirusa, Jacoby 327 14 metallica, Jacoby 328 15 livina, Jacoby 329 16 viridipennis, Jacoby 329 17 fulvipennis, Jacoby 329 18 pirusa, Jacoby 329 19 pirusa, Maukik 349 10 stripatus, Jacoby 320 11 viringennis, Jacoby 321 12 pirusa, Jacoby 320 13 pirusa, Jacoby 320 14 pi	42 Paradibolia, Rave	204	1 oroninonnia Disense	Page
2 mla, Maulik	1 maica. Rabi		2 nomnoune Mutakalala	901 000
43 Argopiates, Motschulsky 296	2 mls Maylil		2 ingripennia, motschutsky	
1 lampiotes, Maulik 297	48 Argonistas Metaghelalas			
2 quadrimeculatus, Jacoby 298 d bistripunctata, Durviver 299 7 hratis, Maulil. 349 4 mgromarginatus, Jacoby 300 5 mgiistriga, Maulil. 301 1 septempunctata, Jacoby 301 1 septempunctata, Jacoby 302 1 pinceriollis, Jacoby 303 46 Lanka, Maulil. 302 1 rengonensis, Jacoby 305 1 ceylonensis, Jacoby 305 1 ceylonensis, Jacoby 305 1 ceylonensis, Jacoby 306 17 inalina, Maulil. 349 8 mgronotatus, Jacoby 346 18 seri, Maulil. 349 1 meturensis, Jacoby 348 17 inalina, Maulil. 349 1 meturensis, Jacoby 349 1 ceylonensis, Jacoby 305 1 ceylonensis, Jacoby 306 17 inalina, Maulil. 350 1 apricipennis, Jacoby 309 20 tavoys, Maulil. 350 1 apricipennis, Durviver 310 1 apricipennis, Jacoby 310 1 apricipennis, Jacoby 311 2 apricipennis, Jacoby 312 2 migroplagiata, Jacoby 312 2 migroplagiata, Jacoby 312 2 migroplagiata, Jacoby 313 2 migroplagiata, Jacoby 310 3 ornatipennis, Jacoby 310 3 ornatipennis, Jacoby 320 4 biplagiata, Jacoby 321 5 acutangula, Jacoby 321 6 pallidicormis, Jacoby 322 1 transata, Jacoby 323 8 brevicornis, Jacoby 324 10 antennata, Jacoby 325 12 birman ca, Jacoby 326 13 pinceicollis, Jacoby 327 16 mandarenvis, Jacoby 327 16 mandarenvis, Jacoby 327 16 mandarenvis, Jacoby 327 16 mandarenvis, Jacoby 327 16 variapennis, Motschulsky 329 1 fulvipennis, Jacoby 321 1 migripennis, Motschulsky 329 1 fulvipennis, Jacoby 320 1 viridipennis, Motschulsky 329 1 fulvipennis, Jacoby 331 2 metallica, Jacoby 331 2 metallica, Jacoby 331 2 metallica, Jacoby 331 3 migripennis, Jacoby 331 3 migripennis, Jacoby 331 2 metallica, Jacoby 331 4 migripennis, Jacoby 331 3 migripennis, Jacoby 332 4 migripennis, Jacoby 333 5 lirpinenis, Jacoby 335 5 Ivalia Jacoby 331 4 migripennis, Jacoby 331 4 migripennis, Jacoby 332 5 lirpinenis, Jacoby 333 5 lirpinenis, Jacoby 333 6 lirpinenis, Jacoby 334 1 migripenis, Matschulsky 330 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 migripenis, Jacoby 333 3 migripenis, Jacoby 334 1 migripenis, Jacoby 335 1 migripen	lampietes, Muleumsky			
3 bastrapunctata, Juvove 299 4 nigromargmatus, Jacoby 300 5 mgnistriga, Maukil. 301 1 septempunctata, Jacoby 302 1 preciollis, Jacoby 303 11 brimancus, Jacoby 346 Lanka, Maukil. 304 1 brimancus, Jacoby 347 1 brimancus, Jacoby 348 1 brimancus, Jacoby 349 1 transponses, Jacoby 340 1 brimancus, Jacoby 347 1 brimancus, Jacoby 348 1 brimancus, Jacoby 349 1 transponses, Jacoby 340 1 transponses, Jacoby 347 1 brimancus, Jacoby 348 1 transponses, Jacoby 307 1 variabilis, Jacoby 308 1 dorsalis, Jacoby 309 1 dorsalis, Jacoby 309 1 dorsalis, Jacoby 309 1 dorsalis, Jacoby 310 1 apicpennis, Jacoby 312 1 apicpennis, Jacoby 313 2 nigroplagiata, Jacoby 314 3 decemplagiata, Jacoby 315 3 decemplagiata, Jacoby 316 3 decemplagiata, Jacoby 317 dorsalis, Jacoby 318 dorsalis, Jacoby 319 dorsalis, Jacoby 326 dorsalis, Jacoby 327 dorsalis, Jacoby 328 dorsalis, Jacoby 328 dorsalis, Jacoby 329 dorsalis, Jacoby 326 dorsalis, Jacoby 327 dorsalis, Jacoby 328 dorsalis, Jacoby 326 dorsalis, Jacoby 327 dorsalis, Jacoby 328 dorsalis, Jacoby 327 dorsalis, Jacoby 328 dorsalis, Jacoby 329 dorsalis, Jacoby 320 dorsalis, Jacoby 320 dorsalis, Jacoby 320 dorsalis, Jaco	2 and ampaulatus Tracke			
4 ngromargmatus, Jacoby 500	2 quauriniaculatile, Jacoby			
5 mg1striga, Maukk. 301 1 septempunctata, Jacoby 302 45 Jacobvana, Maukh. 302 46 Lanka, Maukh. 304 1 biunnea, Maukh. 304 47 Eucycla, Baly 305 1 ceylonenss, Jacoby 305 1 ceylonenss, Jacoby 305 1 cariabilis, Jacoby 306 48 Thrylea, Jacoby 307 1 variabilis, Jacoby 309 1 dorsalis, Jacoby 311 51 Chabria, Jacoby 312 2 migroplagnata, Jacoby 312 3 migroplagnata, Jacoby 313 3 decemplagnata Maukl. 315 52 Spheroderma, Stephens 316 52 Spheroderma, Stephens 316 53 ornatapennis, Jacoby 321 54 biplagiata, Jacoby 321 55 breniant, Jacoby 321 6 pallidcorms, Jacoby 322 7 migrita, Jacoby 323 8 brevicornis, Jacoby 324 10 antennate, Jacoby 325 11 preminata, Jacoby 326 12 preminata, Jacoby 327 13 piecicolle, Jacoby 326 14 orientalis, Jacoby 327 16 mandarenis, Jacoby 326 17 turipennis, Jacoby 327 18 varipennis, Jacoby 327 19 preminata, Jacoby 327 10 turipennis, Jacoby 328 17 fulvipennis, Motschulsky 329 1 of biculata, Motschulsky 329 1 of biculata, Motschulsky 329 1 fulva, Motschulsky 329 1 fulva, Motschulsky 329 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 331 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 332 4 fulvipennis, Jacoby 332 5 fulvipennis, Jacoby 332 5 fulvipennis, Jacoby 333 5 ful	o distripunctata, Duvivier			
44 Aigopistondes, Jacoby 302 10 strigatus, Maulik 345 3ecobyana, Maulik 302 1 piceicollis, Jacoby 303 12 rangoonenis, Jacoby 346 13 madurenis, Jacoby 347 14 hines, Maulik 347 15 hinenen, Maulik 304 16 gavira, Maulik 349 16 gavira, Maulik 350 16 gavir	4 mgromargmarus, Jacoby			
1				
1				345
1 picetcollis, Jacoby 1 Lanka, Maulik 1 biunnea, Maulik 1 biunnea, Maulik 1 ceylonensis, Jucoby 2 ceylonensis,				345
1	45 Jacobyana, Maulik		12 rangoonensis, Jacoby	346
1 bunnea, Maulek 304 47 Eucycla, Baly 305 1 ceylonensis, Jacoby 306 48 Thrylea, Jacoby 307 1 variabhs, Jacoby 309 1 dorsalis, Jacoby 309 1 apicipennis, Duvine 310 1 apicicornis, Jacoby 312 2 mgroplagiata, Jacoby 313 3 decemplagiata, Jacoby 314 3 decemplagiata Muth. 315 52 Sphieroderma, Stephens 316 1 geminata, Jacoby 319 3 ornatipennis, Jacoby 320 4 biplagiata, Jacoby 321 5 acutingula, Jacoby 321 5 acutingula, Jacoby 321 6 pallidicormis, Jacoby 322 7 migrita, Jacoby 323 8 brevicormis, Jacoby 324 10 antennata, Jacoby 324 11 varpennis, Jacoby 325 12 birman ca, Jacoby 326 13 piccicollis, Jacoby 327 16 mandarenus, Jacoby 328 17 fulvipennis Moschulsky 329 16 fulvipennis Moschulsky 329 16 palcilenta, Motschulsky 329 16 palcilenta, Motschulsky 329 16 palcilenta, Motschulsky 329 16 ridopota, Motschulsky 329 16 ridopota, Motschulsky 329 16 ridopota, Motschulsky 329 17 fulvipennis Jacoby 328 18 Ivalia Jacoby 330 1 viridipennis, Jacoby 328 17 fulvipennis Jacoby 328 18 Ivalia Jacoby 330 1 viridipennis, Jacoby 328 17 fulvipennis Jacoby 328 18 Ivalia Jacoby 330 1 viridipennis, Jacoby 328 17 fulvipennis Jacoby 328 18 Ivalia Jacoby 330 1 viridipennis, Jacoby 328 17 fulvipennis Jacoby 329 18 sari, Maulik 349 19 metallica, Jacoby 309 1 viridipennis Jacoby 320 1 viridipennis, Jacoby 320 1 viridipenni	l piceicollis, Jacoby			
Eucycla, Baly 305 16 gavīra, Maulīk 349 17 ceşlonensis, Jacoby 307 1 variabihs, Jacoby 308 18 sari, Maulīk 350 19 puncti, Maulīk 351 19 puncti, Maulīk 351 19 puncti, Maulīk 351 19 puncti, Maulīk 352 19 palicicornis, Jacoby 313 19 pandīra, Jacoby 314 19 puncti, Maulīk 353 19 pandīra, Jacoby 314 19 puncti, Maulīk 355 10 palicicornis, Jacoby 316 19 puncti, Maulīk 356 10 palicicornis, Jacoby 321 19 pandīra, Jacoby 321 19 pandīra, Jacoby 322 19 palicicornis, Jacoby 323 19 priecicollis, Jacoby 324 10 antennata, Jacoby 325 10 antennata, Jacoby 326 10 palicicornis, Jacoby 327 16 mandīrensis, Jacoby 328 17 fulvipennis Illigei 329 17 fulvipennis Illigei 329 18 priecicollis, Motschulsky 329 19 palicicornis, Motschulsky 329 19 palicicornis, Jacoby 326 10 palicicornis, Jacoby 327 10 palicicornis, Jacoby 328 10 palicicornis, Jacoby 329 10 palicicornis, Jacoby 329 10 palicicornis, Jacoby 329 10 palicicornis, Jacoby 320 10 palicicornis, Jacoby	46 Lanka, Maulik			847
Eucycla, Baly	1 brunnen, Maulik	, 304	15 belgaumensis, Jacoby	348
1 cez, lonensis, Jacoby 307 1 variabhs, Jacoby 308 48 Thrylea, Jacoby 308 1 dorsalis, Jacoby 309 1 dorsalis, Jacoby 309 1 dorsalis, Jacoby 309 1 apicipennis, Duvine 310 1 apicipennis, Duvine 311 51 Chabria, Jacoby 312 2 nigroplagiata, Jacoby 313 3 decemplagiata Munith 315 52 Spheroderma, Stephens 316 1 geminata, Jacoby 319 3 ornatipennis, Jacoby 319 3 ornatipennis, Jacoby 319 3 ornatipennis, Jacoby 320 4 biplagiata, Jacoby 321 5 acutingula, Jacoby 321 5 acutingula, Jacoby 321 6 pallidicorms, Jacoby 322 7 nigrita, Jacoby 323 8 brevicornis, Jacoby 324 10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 pirman ca, Jacoby 326 13 piccicollis, Jacoby 327 16 varipennis, Jacoby 326 17 fulvipennis, Jacoby 327 18 fulvipennis, Jacoby 328 17 fulvipennis, Motschulsky 329 18 fulvia, Motschulsky 329 19 trundicata, Motschulsky 329 10 obiculata, Motschulsky 329 11 transpennis, Jacoby 326 12 pirmonata, Motschulsky 329 13 fulvipennis, Motschulsky 329 14 fulva, Motschulsky 329 15 fulvipennis, Motschulsky 329 16 varipes, Jacoby 327 17 fulvipennis, Jacoby 328 18 fulvipennis, Jacoby 329 19 transpennis, Jacoby 329 10 obiculata, Motschulsky 329 10 the decemplagiata, Jacoby 328 17 fulvipennis, Jacoby 328 18 fulvipennis, Jacoby 329 19 transpennis, Jacoby 329 10 the decemplagiata, Jacoby 329 10 the decemplagiata, Jacoby 329 10 antennata, Jacoby 326 11 pirmonata, Jacoby 327 12 pirmonata, Jacoby 328 13 pirmonata, Jacoby 328 14 orientalis, Jacoby 328 15 fulvipennis, Jacoby 328 16 varipes, Jacoby 329 16 pirmonata, Jacoby 329 16 varipes, Jacoby 329 16 pirmonata, Jacoby 329 17 fulvipennis, Jacoby 329 18 pirmonata, Jacoby 329 19 pirmonata, Jacoby 329 10 pirmonata, Jacoby 329 10 pirmonata, Jacoby 329 10 pirmonata, Jacoby 329 10 pirmonata, Jacoby 320 11 pirmonata, Jacoby 320 12 pirmonata, Jacoby 320 13 pirmonata, Jacoby 320 14 pirmonata, Jacoby 320 15 pirmonata, Jacoby 320	47 Eucycla, Baly	305	16 gavira, Maulik	349
48 Thrylea, Jacoby 1 carabhhs, Jacoby 309 1 carabhhs, Jacoby 309 20 puncts, Maulik 350 1 dorsalis, Jacoby 309 21 lohita, Maulik 350 22 recticollis, Jacoby 352 320 1 apicicornis, Jacoby 312 23 gola, Maulik 353 2 nigroplagiata, Jacoby 314 3 decemplagiata Maulik 315 3 decemplagiata Maulik 315 3 decemplagiata Maulik 315 3 decemplagiata Maulik 315 3 ornatipennis, Jacoby 319 30 ornatipennis, Jacoby 320 4 biplagiata, Jacoby 321 5 acutangula, Jacoby 321 5 acutangula, Jacoby 321 6 pallidicornis, Jacoby 323 8 brevicornis, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 325 12 birman ca, Jacoby 326 13 piceicollis, Jacoby 327 16 varipennis, Jacoby 328 17 fulvipennis Jacoby 326 18 fulvipennis Jacoby 327 16 varipes, Jacoby 328 16 varipes, Jacoby 329 [rationicta, Motschulsky 329] [robecta, Motschulsky 329] [robecta, Motschulsky 329] [robecta, Motschulsky 329] [robecta, Motschulsky 329] [rationicta, M	1 ceylonensis, Jucoby	308	17 malma, Maulik	349
1 variabhs, Jacoby 309 1 dorsalis, Jacoby 309 1 dorsalis, Jacoby 309 20 tavoya, Maulil. 351 50 Parathivlea, Duvive: 311 51 Chabria, Jacoby 312 1 apicipennis, Jacoby 313 2 nigroplagiata, Jacoby 314 3 decemplagiata Maulil. 315 52 Sphæroderma, Stephens 316 1 geminata, Jacoby 319 3 ornatipennis, Jacoby 319 3 ornatipennis, Jacoby 319 3 ornatipennis, Jacoby 321 5 acutingula, Jacoby 321 5 pallidicormi, Jacoby 321 6 pallidicormi, Jacoby 322 7 migrita, Jacoby 323 8 brevicornis, Jacoby 324 10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 birman ca, Jacoby 326 13 piceicollis, Jacoby 326 14 orientalis, Jacoby 327 16 varipes, Jacoby 326 17 fulvipennis Jacoby 327 16 varipes, Jacoby 328 17 fulvipennis Motschulsky 329 [viridipennis, Motschulsky 329] [viridipennis, Jacoby 326 1 viridipennis, Jacoby 327 1 viridipennis, Jacoby 329 1 viridipennis, Jacoby 329 1 viridipennis, Jacoby 329 1 viridipennis, Jacoby 330 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 332 4 fulvipennis, Jacoby 331 5 fulvipennis, Jacoby 331 5 fulvipennis, Jacoby 331 6 fulvipennis, Jacoby 332 6 fulvipennis, Jacoby 333 6 fulvipennis, Jacoby 333 6 fulvipennis, Jacoby 334 6 fulvipennis, Jacoby 3	48 Thrylea, Jacoby	307		350
49 Amphimeloides, Jacoby 309 1 dorsalis, Jacoby 309 50 Parathi vlea, Duovue 310 1 apicipennis, Duovue 311 51 Chabria, Jacoby 312 2 migroplagiata, Jacoby 313 2 migroplagiata Maulik 315 3 decemplagiata Maulik 315 52 Sphæroderma, Stephens 316 1 geminata, Jacoby 319 3 ornatipennis, Jacoby 321 5 discicollis, Jacoby 321 5 discicollis, Jacoby 321 5 acutingula, Jacoby 321 6 pallidicornis, Jacoby 322 7 migrita, Jacoby 323 8 brevicornis, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jacoby 327 13 picciollie, Jacoby 326 14 ornatalis, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennis Jilige 329 [viridipennis, Motschulsky 329] [viridipennis, Jacoby 326 1 viridipennis, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennis Jacoby 329 [viridipennis, Motschulsky 329] [viridipennis, Jacoby 329 [viridipennis, Jacoby 330 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 331 6 levisi, Jacoby 372 7 avurea, Jacoby 373 6 levisi, Jacoby 371 6 levisi, Jacoby		808		350
1 dorsalis, Jacoby 309 1 apicipennis, Duvivier 310 1 apicipennis, Duvivier 311 51 Chabria, Jacoby 312 2 migroplagiata, Jacoby 313 3 decemplagiata Maulik 315 3 decemplagiata Maulik 315 52 Spheroderma, Stephens 316 1 geminata, Jacoby 319 2 discicollis, Jacoby 319 3 ornatipennis, Jacoby 321 4 biplagiata, Jacoby 321 5 acutingula, Jacoby 321 6 pallidicormi, Jacoby 321 6 pallidicormi, Jacoby 322 7 migrita, Jacoby 323 8 brevicormis, Jacoby 323 8 brevicormis, Jacoby 324 10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 birman ca, Jacoby 326 13 picacollis, Jacoby 327 16 mandarensis, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [of biculata, Motschulsky 329] [of biculata, Motschulsky 329] [rafopicta, Motschulsky 329] [rafopicta, Motschulsky 329] 15 Ivalia Jacoby 321 2 metallica, Jacoby 331 2 metallica, Jacoby 331 3 metallica, Jacoby 332 4 metallica, Jacoby 331 5 metallica, Jacoby 331 5 metallica, Jacoby 332 5 metallica, Jacoby 331 5 metallica, Jacoby 331 5 metallica, Jacoby 332 5 metallica, Jacoby 333 5 metallica, Jacoby 333 5 metallica, Jacoby 333 5 metallica, Jacoby 333 5 m	49 Amphimeloides, Jacoby	309	20 lavova, Maulth	351
22 recticollis, Jacoby 355 1 apicipennis, Duvivies 311 23 gola, Maulik 358 3 apicipennis, Jacoby 313 2 apicipennis, Jacoby 313 3 decemplagiata, Jacoby 314 3 decemplagiata, Maulik 315 3 decemplagiata Maulik 315 1 geminata, Jacoby 319 2 discipennis, Jacoby 319 3 ornatipennis, Jacoby 321 4 biplagiata, Jacoby 321 5 acutangula, Jacoby 321 5 acutangula, Jacoby 322 6 pallidicornis, Jacoby 323 8 brevicornis, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jacoby 326 13 piccicollis, Jacoby 326 14 orientalis, Jacoby 327 15 mandarenvis, Jacoby 328 16 varipes, Jacoby 328 17 fulvipennis Illiger 329 [orientalis, Motschulsky 329 [fulva, Motsc		309	21 lobita. Maulik	352
1 apicipennis, Duvine 311 1 apicipennis, Jacoby 313 1 apicipennis, Jacoby 313 2 migroplagiata, Jucoby 314 3 decemplagiata Munith 315 52 Sphæroderma, Stephens 316 52 Sphæroderma, Stephens 316 52 Sphæroderma, Stephens 316 53 ornatipennis, Jacoby 319 54 biplagiata, Jucoby 321 55 acutangula, Jacoby 321 6 pallidicornis, Jacoby 323 6 pallidicornis, Jacoby 323 7 migrita, Jacoby 323 8 brevicornis, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jucoby 327 16 varipes, Jacoby 328 17 fulvipennis Illiges [viridipennis, Motschulsky 329] [orbiculata, Motschulsky 329] [orbiculata, Motschulsky 329] [orbiculata, Motschulsky 329] [rufopicta,	50 Parathivlea. Duvivie	310		
51 Chabria, Jacoby 1 apicicornis, Jacoby 2 nigroplagiata, Jacoby 314 2 decemplagiata Mandil. 52 Sphæroderma, Stephens 1 geminata, Jacoby 319 2 discicollis, Jacoby 319 3 ornatipennis, Jacoby 320 4 biplagiata, Jucoby 321 5 acutingula, Jacoby 321 6 pallidicornis, Jacoby 322 7 nigrita, Jacoby 323 8 brevicornis, Jacoby 324 10 antennata, Jacoby 325 12 birman ca, Jucoby 326 13 piccicollis, Jacoby 327 14 orientalis, Jacoby 328 15 mandarensis, Jacoby 329 16 varipes, Jacoby 326 17 fulvipennis Illiger 18 mandarensis, Jacoby 327 18 ruipes, Jacoby 328 19 fulvipennis Illiger 10 piccicollis, Jacoby 329 11 torientalis, Jacoby 320 12 birman ca, Jucoby 321 13 piccicollis, Jacoby 325 14 orientalis, Jacoby 326 15 fulvipennis Illiger 16 piccicollis, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennis Illiger 18 piccicollis, Jacoby 329 18 piccicollis, Jacoby 320 19 terminata, Jacoby 321 20 championi, Jacobis 320 21 lunginenis, Motschulsky 360 22 lundulatovitatius, Motschulsky 360 23 lunginenis, Jacoby 361 24 orientalis, Jacoby 326 327 suura, Maulik 357 28 pandura, Maulik 358 28 nau, Maulik 358 29 latipennis, Jacoby 360 20 lundura, Motschulsky 360 21 lunginenis, Motschulsky 360 22 lundulatovitatius, Motschulsky 360 23 lunginenis, Jacoby 361 24 lunginenis, Jacoby 362 25 lunginenis, Jacoby 363 26 lunginenis, Jacoby 360 26 lungiornis, Jacoby 360 27 suuralis, Motschulsky 360 28 pandura, Maulik 357 29 lundulatovitatius, Motschulsky 360 29 lundulatovitatius, Motschulsky 360 20 lundulatovitatius, Motschulsky 360 20 lundulatovitatius, Motschulsky 360 21 lunginenis, Jacoby 361 21 lungipennis, Jacoby 362 3 lungipennis, Jacoby 363 3 birmanica, Jacoby 364 3 birmanica, Jacoby 365 3 lungipennis, Jacoby 360 3 lunginenis, Jacoby 360 3 lunginenis, Jacoby 361 3 lungipennis, Jacoby 361 3 lungipennis, Jacoby 361 3 lungipennis, Jacoby 361 3 lungipennis, Jacoby 362 4 lungipennis, Jacoby 363 3 birmanica, Jacoby 364 3 birmanica, Jacoby 365 4 lungipennis, Jacoby 366 5 Lupenomorphs, Wesse 3 birmanica, Jacoby 3 birmanica, Jacoby 3 birmanica, Jacoby 3 birmanica, J			23 gola, Maulth	
1 apicicornis, Jacoby 314 2 nigroplagiata, Jacoby 314 3 decemplagiata Maulik 315 3 decemplagiata Maulik 315 52 Sphwroderma, Stephens 316 1 geminata, Jacoby 319 3 ornatipennis, Jacoby 329 4 biplagiata, Jacoby 321 5 acutangula, Jacoby 321 6 pallidicorms, Jacoby 323 8 brevicornis, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jucoby 326 13 piccicollis, Jacoby 327 16 mandarenus, Jacoby 326 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [orbiculata, Motschulsky 329] [orbiculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] [viridipennis, Jacoby 326 [fulva, Motschulsky 329] [rufopicta, Motschulsky 329]				
2 migroplagrata, Jacoby 314 decemplagrata Munith 315 52 Spheroderma, Stephens 316 1 gemmata, Jacoby 319 2 discicollis, Jacoby 319 3 ornatipennis, Jacoby 321 5 acutangula, Jacoby 321 5 acutangula, Jacoby 321 6 pallidcorms, Jacoby 323 8 brevicorms, Jacoby 323 8 brevicorms, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jucoby 325 13 piccicollis, Jacoby 326 14 orientalis, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis, Motschulsky 329] [gracilenta, Motschulsky 329] [gracilenta, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [viridipennis, Jacoby 326 1 viridipennis, Jacoby 327 1 viridipennis, Jacoby 328 1 viridipennis, Jacoby 329 [fulva, Motschulsky 329] [viridipennis, Jacoby 330 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 2 metallica, Jacoby 331 3 ludipennis, Jacoby 372 3 fulvipennis, Jacoby 331 6 lewisi, Jacoby 372 7 arurea, Jacoby 372 7 arurea, Jacoby 372				0.04
3 decemplagiata Muilik 315 Sphieroderma, Stephens 316 1 geminata, Jacoby 319 2 discicollis, Jacoby 319 3 ornatipennis, Jacoby 320 4 biplagiata, Jucoby 321 5 acutungula, Jacoby 321 6 pallidicorma, Jacoby 322 7 migrita, Jacoby 323 8 brevicormis, Jacoby 324 10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 birman ca, Jucoby 326 13 piccicollis, Jacoby 326 14 orientalis, Jacoby 327 16 varipes, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennia Illiger 329 [viridipenmis Motschulsky 329] [oi biculata, Motschulsky 329] [oi biculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [viridipenmis, Jacoby 326 [viridipenmis, Jacoby 327 1 varigennis, Jacoby 328 [viridipenmis, Motschulsky 329] [viridipenmis, Motschulsky 329] [viridipenmis, Jacoby 330 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 332 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 332 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 332 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 331 [viridipenmia, Jacoby 332 [viri				
1 gemmata, Jacoby 319 2 discicollis, Jacoby 319 3 ornatpennis, Jacoby 321 4 biplagiata, Jacoby 321 5 acutangula, Jacoby 321 6 pallidicorms, Jacoby 323 8 brevicornis, Jacoby 323 10 antennata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jacoby 326 13 piccicollis, Jacoby 326 14 orientalis, Jacoby 327 16 varipes, Jacoby 327 17 fulvipennis Illiger 329 18 varipes, Jacoby 327 19 birman ca, Jacoby 327 10 ibiculata, Motschulsky 329 10 ibiculata, Motschulsky 329 11 varipennis, Jacoby 327 12 varipennis, Jacoby 327 13 piccicollis, Jacoby 327 14 orientalis, Jacoby 327 15 mandarenus, Jacoby 327 16 varipes, Motschulsky 329 16 varipes, Motschulsky 329 16 varipes, Motschulsky 329 17 fulvipennis Illiger 329 18 piccicollis, Jacoby 327 18 piccicollis, Jacoby 328 19 piccicollis, Jacoby 327 20 piccicollis, Jacoby 328 21 disconder Jacoby 368 22 albofasciata, Durivier 362 23 lombayensis, Jacoby 365 24 bombayensis, Jacoby 365 25 Aphthona, Chewolat 366 25 hugeli, Jacoby 369 26 lewisi, Jacoby 371 26 lewisi, Jacoby 372 27 arurea, Jacoby 372 28 pandura, Maulik 358 29 chrampion, Maulik 358 29 chrampion, Maulik 358 20 chrampion, Maulik 358 20 chrampion, Maulik 358 20 chrampion, Maulik 358 20 chrampion, Maulik 359 20 leuturangra, Motschulsky 360 21 atripes, Motschulsky 360 22 letripes, Motschulsky 360 23 lewisens, Motschulsky 360 24 libescens, Motschulsky 360 25 lundulatovitatus, Motschulsky 360 26 lundulatovitatus, Motschulsky 361 27 lupenomorpha, Weise 361 28 lomoro, Motschulsky 361 29 lundulatovitatus, Motschulsky 361 20 lupenomorpha, Weise 361 20 lupenomorpha, Weise 361 21 nigripennis, Duvivier 362 22 albofasciata, Duvivier 362 23 liberacia, Motschulsky 360 24 lupenomorpha, Weise 361 25 Lupenomorpha, Weise 361 26 lupenomorpha, Weise 361 27 lupenomorpha, Weise 361 28 lupenomorpha, Weise 361 29 lupenomorpha, Weise 361 20 lupenomorpha, Weise 361 20 lupenomorpha, Weise 361 21 nigripennis, Duvivier 362 22 albofasciata, Duvivier 362 23 lupenomorpha, Weise 361 24 lupenomorpha, Weise 361 25 lupenomorpha, Weise 361				
1 gemmata, Jacoby 319 2 discicollis, Jacoby 319 3 ornatipennis, Jacoby 320 4 biplagiata, Jacoby 321 5 acutangula, Jacoby 321 6 pallidicornis, Jacoby 322 7 nigrita, Jacoby 323 8 brevicornis, Jacoby 324 10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 birman ca, Jacoby 326 13 piccicollis, Jacoby 326 14 orientalis, Jacoby 326 15 mandarensis, Jacoby 327 16 vanipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [oi biculata, Motschulsky 329] [oi biculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [viridipennis Jacoby 326 [fulva, Motschulsky 329] [viridipennis Jacoby 328 [fulva, Motschulsky 329] [viridipennis Jacoby 331] 2 metallica, Jacoby 331 3 nlgirienbis, Jacoby 372 3 fulvipennis, Jacoby 331 6 lewis, Jacoby 372 7 azurea, Jacoby 372 8 principalis Motschuls 359 8 anu, Maulik 358 8 anu, Maulik 359 8 anu, Maulik 360 8 anu, Maulik 359 8 anu, Maulik 359 8 anu, Maulik 360 8 anu, Maulik 359 8 anu, Maulik 359 8 anu, Maulik 360 8 anu, Maulik 359 8 anu, Maulik 358 8 anu, Maulik 359 8 anu, Maulik 359 8 anu, Maulik 358 8 anu, Maulik 360 8 anu, Maulik 359 8 anuniens, Motschulsky 360 8	52 Sphiprodurms Stenhene			
2 discicollis, Jacoby 319 3 ornatipennis, Jacoby 320 4 biplagiata, Jucoby 321 5 acutangula, Jacoby 321 6 pallidicornis, Jacoby 322 7 nigrita, Jacoby 323 8 brevicornis, Jacoby 324 10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 birman ca, Jucoby 326 13 piccicollis, Jacoby 326 14 orientalis, Jacoby 327 16 waipes, Jacoby 328 16 vaipes, Jacoby 328 16 vaipes, Jacoby 328 17 fulvipennis Illiger 329 [oriscilenta, Motschulsky 329] [oriscilenta, Motschulsky 329] [oriscilenta, Motschulsky 329] [rafopicta, Motschulsky 329] [rafopicta, Motschulsky 329] 1 vardipennis, Jacoby 331 2 metallica, Jacoby 331 3 nau, Maulik 359 [sutura nigra, Motschulsky 360] [sutura nigra, Motschulsky 360] [suturellus, Motschulsky 360] [suturellus, Motschulsky 360] [simplex, Motschulsky 360] [paria, Motschulsky 360] [paria, Motschulsky 360] [simplex, Motschulsky 360] [paria, Motschulsky 360] [paria, Motschulsky 360] [simplex, Motschulsky 360] [simplex, Motschulsky 360] [paria, Motschulsky 360] [simplex, Motsch	1 commune Jacoby			
3 ornatipennis, Jacoby 321 4 biplagiata, Jucoby 321 5 acutangula, Jacoby 321 6 pallidicorms, Jacoby 322 7 nigrita, Jucoby 323 8 brevicornis, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jucoby 326 13 piccicollis, Jacoby 327 16 valipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [oi biculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] 1 viridipennis, Motschulsky 329] 1 viridipennis, Jacoby 328 1 valia Jacoby 329 1 viridipennis, Jacoby 329 1 fulvipennis Jacoby 329 1 viridipennis, Motschulsky 329 1 fulva, Motschulsky 329 1 viridipennis, Motschulsky 329 1 fulva, Motschulsky 329 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 332 5 fulvale Jacoby 331 5 hugeli, Jacoby 372 7 azurea, Jacoby 372	2 drancollin Jacoby		30 mm Maulel.	
4 biplagiata, Jucoby 321 5 acutangula, Jacoby 321 6 pallidicorms, Jacoby 322 7 nigrita, Jucoby 323 8 brevicornia, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennia, Jacoby 326 12 birman ca, Jucoby 326 13 piccicollie, Jacoby 326 14 orientalis, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennia Illiger 329 [viridipennia Motschulsky 329] [oribiculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] 1 viridipennia, Motschulsky 329] [fulva, Motschulsky 329] 1 viridipennia, Jacoby 326 [fulva, Motschulsky 329] 1 viridipennia, Jacoby 329 [fulva, Motschulsky 329] 1 viridipennia, Jacoby 329 [fulva, Motschulsky 329] 1 viridipennia, Jacoby 331 2 metallica, Jacoby 331 3 livipennia, Jacoby 331 3 livipennia, Jacoby 331 4 nigripennia, Jacoby 365 3 livilipennia, Jacoby 331 5 livilipennia, Jacoby 331 5 livilipennia, Jacoby 331 6 levisi, Jacoby 372 7 azurea, Jacoby 372	3 compting the Tanky		Fauture ware Matechalel	
5 acutangula, Jacoby 321 6 pallidicorms, Jacoby 323 7 nigrita, Jacoby 323 8 brevicornis, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 13 piccicolle, Jacoby 326 14 orientalis, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis, Motschulsky 329] [oribiculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 321 1 viridipennis, Jacoby 329 [fulva, Motschulsky 329] 1 viridipennis, Jacoby 329 [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 332 5 livalia Jacoby 331 5 metallica, Jacoby 331 6 levisi, Jacoby 372 7 azurea, Jacoby 372				
6 pallidicorms, Jacoby 323 8 brevicorms, Jacoby 323 9 terminata, Jacoby 324 10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 birman ca, Jucoby 326 13 piccicollis, Jacoby 326 14 orientalis, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipenmis, Motschulsky 329] [oi biculata, Motschulsky 329] [oi biculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 321 1 viridipennis, Jacoby 323 1 varipennis, Jacoby 329 [fulva, Motschulsky 329] 1 viridipennis, Jacoby 329 [fulva, Motschulsky 329] 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 331 4 metallica, Jacoby 331 5 lvalia, Jacoby 331 5 lvalia, Jacoby 331 5 lvalia, Jacoby 331 6 levisi, Jacoby 372 7 azurea, Jacoby 372			atmos Motestulales	
7 nigrita, Jacoby 323 8 brevicornis, Jacoby 323 10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 birman ca, Jacoby 326 13 piccicollis, Jacoby 326 14 orientalis, Jacoby 327 16 varipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [oribiculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 331 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 metallica, Jacoby 331 3 piccicollis, Jacoby 327 4 discoidea Jacoby 363 5 vittata, Duriner 363 6 bombayensis, Jacoby 365 6 bombayensis, Jacoby 366 1 attiventris, Manilik 368 1 attiventris, Manilik 368 2 kanaraensis, Jacoby 369 4 nigrilabris, Duvimer 370 5 hugeli, Jacoby 371 6 levisi, Jacoby 372 7 azurea, Jacoby 372	e malled and the Transit		In Thursday Moter healel as	
8 brevicorms, Jacoby 324 9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jucoby 326 13 piccicollie, Jacoby 326 14 orientalis, Jacoby 327 15 mandarensis, Jacoby 327 16 valipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [olibiculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] 1 valia Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 332 3 fulvipennis, Jacoby 332 5 levisi, Jacoby 372 5 hugeli, Jacoby 372 7 azurea, Jacoby 372			farmelow Matechalela	
9 terminata, Jacoby 324 10 antennata, Jacoby 325 11 varipennis, Jacoby 326 12 birman ca, Jucoby 326 13 piceicollie, Jacoby 326 14 orientalis, Jacoby 327 15 mandarensis, Jacoby 327 16 valipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis, Motschulsky 329] [oi biculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] [rufopicta, Motschulsky 329] 1 valia Jacoby 330 1 valia Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 332 5 livalia, Jacoby 331 5 hugeli, Jacoby 372 7 azurea, Jacoby 372			Simplex, in medically	
10 antennata, Jacoby 324 11 varipennis, Jacoby 325 12 birman ca, Jucoby 326 13 piceicollis, Jacoby 326 14 orientalis, Jacoby 327 15 mandarensis, Jacoby 327 16 valipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [olbiculata, Motschulsky 329] [olbiculata, Motschulsky 329] [fulva, Motschulsky 329]				200]
11 varpennis, Jacoby 326 12 birman ca, Jucoby 326 13 piceicollis, Jacoby 326 14 orientalis, Jacoby 327 15 mandarensis, Jacoby 328 16 valipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [olibiculata, Motschulsky 329] [gracilenta, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] 1 valia Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 332 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 332 5 livalia Jacoby 331 5 hugeli, Jacoby 372 6 levisi, Jacoby 372 7 azurea, Jacoby 372	9 terminata, Jacoby			9277
12 birman ca, Jucoby 326 13 piceicollie, Jai oby 326 14 orientalis, Jai oby 327 15 mandarensis, Jacoby 327 16 vnipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [oi biculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] 1 vnidipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jucoby 332 3 fulvipennis, Jucoby 332 5 Lupeiomorphs, Weise 361 1 nigiipennis, Duviver 363 4 discordea Jacoby 365 5 vitata, Duviver 365 6 bombayenis, Jacoby 366 1 nigiipennis, Jacoby 365 6 bombayenis, Jacoby 366 1 nigiipennis, Jacoby 365 6 hombayenis, Jacoby 368 1 nigiipennis, Jacoby 365 6 hombayenis, Jacoby 368 1 nigiipennis, Jacoby 365 6 hombayenis, Jacoby 368 1 nigiipennis, Duviver 363 6 hombayenis, Jacoby 365 7 highlie, Jacoby 370 7 nigiipennis, Duviver 363 8 hirmanica, Jacoby 365 7 nigiipennis, Duviver 365 7 nigiipennis, Duviver 365 8 hombayenis, Jacoby 365 8 hombayenis, Jacoby 368 1 nigiipennis, Duviver 365 8 hombayenis, Jacoby 365 8 hombayenis, Jacoby 368 1 nigiipennis, Duviver 365 8 hombayenis, Jacoby 365 8 hombayenis, Jacoby 368 1 nigiipennis, Duviver 363 8 hirmanica, Jacoby 365 8 hombayenis, Jacoby 365 8 hombayenis, Jacoby 368 1 nigiipennis, Duviver 363 8 hirmanica, Jacoby 365 8 hombayenis, Jacoby 365 8 hombayenis, Jacoby 368 9 nigiipennis, Duviver 365	10 antennata, Jacoby		F	
13 piceicollie, Jaioby 326 14 orientalis, Jaioby 327 15 mandarensis, Jacoby 327 16 valipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [oi biculata, Motschulsky 329] [gracilenta, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 330 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 metallica, Jacoby 331 3 fulvipennis, Jacoby 332			Interio, musicinary.	
14 orientalis, Jacoby 327 15 mandarensis, Jacoby 328 16 varipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [oribiculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 330 [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 331 3 fulvipennis, Jacoby 332 3 fulvipennis, Jacoby 332 7 azurea, Jacoby 372	12 Dirman ca, Jucony		55 Euperomorpha, Wesse	
15 mandarenas, Jacoby 328 16 vanpes, Jacoby 328 17 fulvipenmis Illiger 329 [viridipenmis, Motschulsky 329] [on biculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] [rufopicta, Motschulsky 329] 1 viridipenmis, Jacoby 330 1 viridipenmis, Jacoby 331 2 metallica, Jacoby 331 3 birmanica, Jacoby 364 4 discoidea Jacoby 365 6 bombayensis, Jacoby 365 1 ativentris, Manlik 368 2 kanaraensis, Jacoby 368 3 milgriensis, Jacoby 369 4 migrilabris, Duvimer 370 5 hugeli, Jacoby 371 6 levisi, Jacoby 372 7 azurea, Jacoby 372	13 piceicoliis, Jaioby		nigripennis, Duototei	
16 valipes, Jacoby 328 17 fulvipennis Illiger 329 [viridipennis Motschulsky 329] [oi biculata, Motschulsky 329] [fulva, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 330 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 332 7 azurea, Jacoby 372	14 orientalis, Jacopy		2 alboinschut, Ductotei	
17 fulvipennis Illiger 829 [viridipennis Motschulsky 329] [oi biculata, Motschulsky 329] [gracilenta, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motschulsky 329] [rufopicta, Motschulsky 329] 1 viridipennis, Jacoby 330 1 viridipennis, Jacoby 331 2 metallica, Jacoby 331 3 fulvipennis, Jacoby 332 3 fulvipennis, Jacoby 332 7 arurea, Jacoby 372	16 mandaren 18, Jacoby			
[viridipenuis, Motschulsky 329] [oi biculata, Motschulsky 329] [gracilenta, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Mo				
[orbiculata, Motschulsky 329] [gracilenta, Motschulsky 329] [fulva, Motschulsky 329] [rufopicta, Motsch	17 fulvipenni - Illigei		o villata, Dulivier	
[quacilenta, Motschulsky 329] 1 ntilventus, Manlik 368 [fulva, Motschulsky 329] 2 kanaraensis, Jacoby 368 [rufopicta, Motschulsky 329] 3 nilgiriensis, Jacoby 369 1 viirdipennis, Jacoby 331 5 hugeli, Jacoby 371 2 metallica, Jacoby 331 6 levisi, Jacoby 372 3 fulvipennis, Jacoby 332 7 azurea, Jacoby 372	viridipennis, Aloischulsk	<i>ท</i> ูชรชบ [bombayenela, Jacoby	
fulva, Motschulsky 329 2 kanaraen 18, Jacoby 369 [rufopicta, Motschulsky 329] 3 nilymensis, Jacoby 369 53 Ivalia Jacoby 330 4 nigrilabris, Duvine 370 1 vindipennis, Jacoby 331 5 hugeli, Jacoby 371 2 metallica, Jacoby 331 6 lewisi, Jacoby 372 3 fulvipennis, Jacoby 332 7 azurea, Jacoby 372	or biculata, Motschulsky	328	ob Aphtnona, Unew otat	
[rufopicta, Motschulsky 329] 3 milmremsis, Jacoby 369 53 Ivalia Jacoby 380 4 migrilabris, Duvine 370 1 vnrdipennis, Jacoby 331 5 hugeli, Jacoby 371 2 metallica, Jacoby 331 6 levisi, Jacoby 372 3 fulvipennis, Jacoby 382 7 azurea, Jacoby 372	gracilenta, Motschulsky	329	1 ntillentris, Mantik	
53 Ivalia Jacoby 830 4 nigrilabria, Discourse 870 1 vindipennia, Jacoby 831 5 hugeli, Jacoby 871 2 metallica, Jacoby 831 6 levisi, Jacoby 872 3 fulvipennia, Jacoby 832 7 azurea, Jacoby 872	fulva, Motschulsky		Z kanaraen is, Jacoby .	
1 viridipennis, Jacoby 331 5 hugeli, Jacoby 371 2 metallica, Jacoby 331 6 levisi, Jacoby 372 3 fulvipennis, Jacoby 332 7 azurea, Jacoby 372	[rufopicta, Motschulsky			
2 metallica, Jacoby 331 6 levisi, Jacoby 372 3 fulvipennis, Jacoby 332 7 azurea, Jacoby 372			4 nigrilabris, Duvines	
3 fulvipennis, Jacoby 332 7 azurea, Jacoby . 372	1 vindipennis, Jacoby		5 hugeli, Jacoby	
o martinglime, output				
54 Longitarsus, Latieille 333 8 indica, Jacoby 8/8	3 fulvipennis, Jucoby		7 azurea, Jacoby	
	54 Longitareus, Latieille	333	8 indica, Jacoby	0/0

Order COLEOPTERA.

Family CHRYSOMELIDÆ.

THE large family CHRYSOMELIDE, comprising about 20,000 species, has been divided into groups and subfamilies as follows.

Eurodes .	• •			Sagranæ.
			2.	Donacunæ
			3.	Orsodaenmæ.
			4	Criocerinæ.
CAMPTOSOMES		•	5.	Megascelinæ
			6.	Megalopodinæ.
				Clytrinæ
			8.	Cryptocephalme.
				Chlamy dinæ.
CYCLICA				Lamprosomuæ
				Eumolpine.
				Chrysomelmæ.
TRICHOSTOMES				Galerucinæ
			14.	Haltrema.
CRYPTOSTOMES			15	Hispinæ
			16.	Cassidina.

Out of these sixteen subfamilies, one, namely MEGASCELINE, is not known to occur within our faunistic limits.* The first eleven subfamilies have been already dealt with by the late Mr. Maitin Jacoby in this series (Coleopteia, 1908), and the last two, Hispine and Cassidine, by the present writer (Coleopteia, 1919). The subfamilies Chrisomeliae and Halticine form the point of view of relationship it would have been better to treat Galericine and Halticine together, but the former group alone includes such a large number of forms occurring within our faunistic area that an account of them would occupy fully the space generally allotted to a large volume in this series

YOL 11

^{*} In my preceding volume (1919, p. 2), it was by an oversight erroneously stated that Mi Gazza one a nico mic unrepresented in British ludi:

Subfamily CHRYSOMELINÆ

Although this subfamily is a very large one, consisting of about 2,500 forms from all parts of the world, we can list only 63 species from our region. It may be stated generally that these beetles belong to the temperate and subtropical regions, and are most abundantly represented in America.

For the purpose of the present work an insect belonging to this subfamily can be recognized in the following way. (1) the

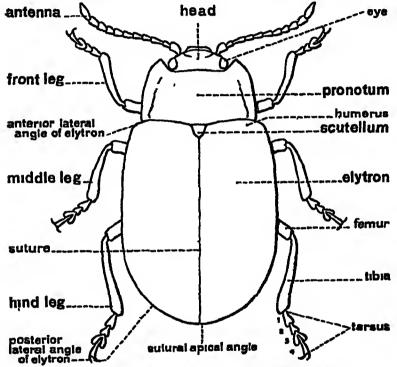


Fig 1 - Dorsal view of Chrysolina exanthematica, Wied

tars are apparently four-segmented, the basal three segments being usually densely set with cushion-like pubescence on the underside, the third segment is expanded laterally into lobes which are not separate, but itsed together (except in the genera Agasta, Chrysomela*, Phaedon and Plugiodera), and the claw arises from the base of the third segment, (2) the antenna are separated from each other by the breadth of the front of the head, (3) the anterior coxal cavities are transverse and oval, not round, (4) these beetles are all phytophagous; (5) the larvæ are free-living

^{*} I e. Melasoma, auctt, see pp 17,67

Evternal Structure.

In shape and size these insects vary considerably, but the general characters may be stated as follows: the head is rather deeply sunk in the prothorax, the eyes are generally convex and entire, the clypeus is subtruncate, with the anterior margin transversely depressed, and the antennæ are inserted on the forehead behind the base of the mandibles, the prothorax is closely applied to the elytra, and is usually as broad or nearly as broad as the latter are at their base.

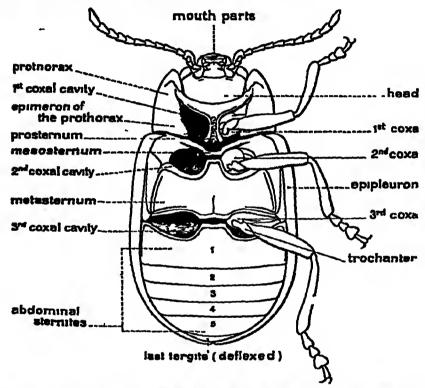


Fig 2—Ventral view of Chrysolina exanthematica, Wied The legs are removed on one side. It should be noted that the prothorasic epimeron does not meet the intercoxal process of the prosternum, this rendition being denoted by the phrase "auterior coxal cavities open behind"

Head broad, generally of the same width as the emargination of the front margin of the pronotum, clypeus usually delimited above by two inclined impressed lines (sometimes very deeply, sometimes very feebly, impressed) meeting at an angle in the middle; eyes widely selarated; antennæ eleven-segmented, not very long, never attaining the length of the body, there is always a difference between the five or six basal segments * and

^{*} Throughout this volume, in descriptions of the appendages, the term "segment" is adopted in place of the term "joint" used in my previous volume.

the remainder, the former being generally smooth, shining and less harry, while the latter are usually thickened, opaque and more harry, terminal segment always more or less pointed, the differences in the relative lengths of the basal segments are of some taxonomic value, labrum strongly chitimized, usually broader than long, with its anterior edge generally emarginate and usually set with stiff hairs or bristles; mandibles distinct and prominent, maxillary palpi four-segmented; labial palpi three-segmented. Thin ax pronotum more or less quadrate, generally broader than long and bearing sette at the anterior and posterior angles, scutellum usually triangular; elytra usually bearing longitudinal series of punctures, but often the punctures are quite confused or with only a tendency to seriate arrangement, epipleura (fig. 2) of the elytra (i.e. the broadening of the lateral margins seen in ventral view) either of the same breadth from

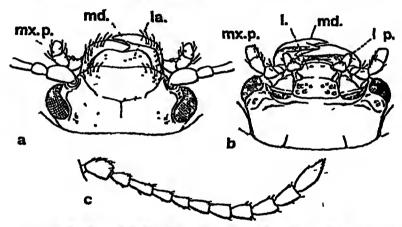


Fig 3—Chresolma exanthematica, Wied —a, dorsal view of head, h, ventral view of head, c, antenna la =labrum, l =labrum, l v —labral palp, and =mandible, mx p =maxillary palp

base to apex, or more often narrowing towards the apex, with surface usually convex, lying in a horizontal or vertical plane, in some genera furnished along the inner margin with a row of cilia-like bristles (fig. 15 B, p. 46), hind wings membranous, fully developed, or in some cases absent; prosternum and mesosterium presenting differences in the form and structure which have been used for classificatory purposes; metasternum large and more or less convex, anterior coxal cavities either open behind (fig. 2) or closed behind by a lateral outward prolongation of the posterior end of the prosternum, which meets or closely approaches (but does not fuse with) the inward prolongation of the side-piece of the underside of the pronotum (cf. fig. 52); tarsi four-segmented, third segment bilebed or deeply notched.

^{*} In all the genera known from the countries under review, the lobes of the third segment are fused, except in Playrodera, Phaedon, Agasta and Chrysomela [Melasoma], where the segment is split longitudinally along the middle

(bearing the claws) arising from the base of the third. The form of the claws in this subfamily is of taxonomic value; they may be simple or "appendiculate," i.e. angularly dilated on the underside at the base, or split or cut in the middle (hg 30, p. 36). Abdomen with five visible ventral segments, which may be punctate or impunctate, glabrous or harry; male copulatory armature, or adeagus, not (so far as is known) varying greatly within this group.

Larvæ and Notes on the Life-history.

The larve of CHRYSOMELINE feed on the foliage of plants, on which they live more or less openly. They are of short, oval or nearly onal form, very convex above, with short legs, and in

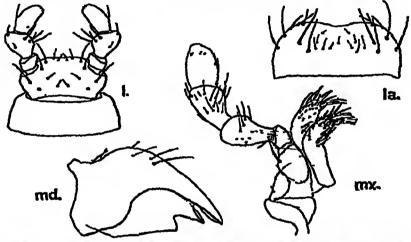


Fig 4.—Chrysolena exauthematica, Wied —la, labrum, md, mandible, mx, maxilla, l, lablum

many species are brightly coloured. There may be one or several generations in the year, the number of generations sometimes varying in a single species in different parts of its range.

^{* [}A paper by H. W. Dobson, 'Entomologist,' lvit, July 1921, pp 159-163, indicates that in certain species the life-cycle may occupy two years, at least in some parts of their range. Dobson observed the habits of Chrysomela fastessa in captivity. This species feeds on the Labiate Galeopsis tetrahit, and he obtained from it a number of larve in N.W. England in August 1921. The majority of these larve had become imagines by Oct. 1921, though a few individuals remained in the larvel state through the winter. The adults libernated, emerging from their winter quarters early in 1922, and continuing active through the summer of that year, many pairings were observed between May and late August, but no eggs were inid. In the autumn of 1922 the adults again went into historiation, and again emerged (except a few which laid died) early in 1923, when pairings took place from March till the end of June, eggs were at length laid later in the summer of 1923, and in mid-August a number of larve were feeding, just two years from the time when those of the preceding generation were found. From Dobson's observations it would appear that the same cycle was followed in a wild state, though that inter—Eng [

Papation takes place either in the soil, or on the ground under dead leaves, etc., or in some cases on the plant, and in some species at least the hind end of the pupa is surrounded by the last larval skin. Some species are viviparous, the adults producing living larve instead of eggs The larve of some species possess extrusible vesicles or processes which they protrude when irritated. In certain species the larve are heavily parasitived, e g the European Paraphaedon tumidulus by the Tachinid fly Megenia. According to Westwood (Introd. i, p 389, 1839) the larvæ of some members of this subfamily feed socially, a number together on the food-plant, adopting an orderly arrangement A considerable amount has been written concerning the early stages and biology of a number of species, and notes on several different forms are given below, insects other than Indian being included (as in the volume on Hisring) to render this section more full

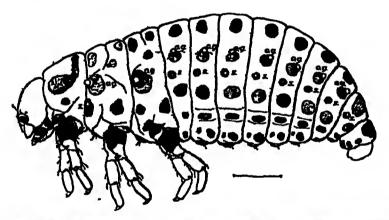


Fig 5 - Chrysomela populi, L Side view of larva - the line-shaded areas represent strongly chitimized parts, s, spiracles, og, openings of odoriferous glands.

India.

Chrysomela [Melasoma] populi, L † (See 'Indian Museum

Notes, vol 111, no. 5, 1894, p. 43)

Larvæ of this beetle were found on the 9th June, 1893, in Deoband, 9000 feet above sea-level in the North-west Himalavas. whether in this case the food-plant was poplar is not stated. They ranged from 0 10 inch to 0 51 inch (nearly 3 to 13 mm.)

(Berlin), lxxxii, Abf A, Heft 4 (1917), pp 142-173, 1 pl , 1919

^{* [}Among comparatively recent illustrations of the larve and pupe of Thropes species may be mentioned the following in Reitler, 'Fruna Germanica, Kāfer,' vol v., 1912 Gastroides polygons, pl 144, fig 9, Plagiodera versicolor and Melasoma tremula, pl 146, figs 9-16—Ens; † See also K. W Verhoeff, "Ueber die Organisation und Entwicklung der Chrysomeliden Melasoma populi und Phyllodecia vitelline" Arch Naturg

in length. The head was black, the body yellowish-white with black markings. On the back were numerous paired glands from which little transparent globules of pungent, strong-smelling fluid were extruded when the insect was touched. After a while the globules were withdrawn into the glands, and they could not be extruded more than two or three times in succession before the insect was exhausted. The odour, which is compared to that of prussic acid, scented the whole bush where they were feeding, and was very characteristic of the insect. The larvæ which were kept in captivity moulted but once before pupating. Pupæ were formed between 14th and 21st June. The pupa had much the same general markings as the larva. It remained partially enclosed in the larval skin. In nature the pupæ were found suspended from the underside of leaves and branches of the food-plant. Beetles began to emerge on 22nd June, and

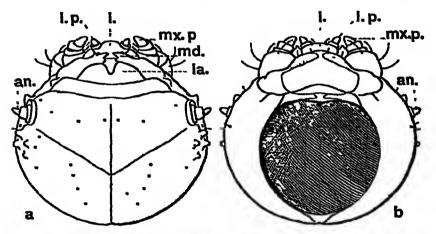


Fig 6—Chrysomela populs, L, larva—a, dorsal view of head, the median longitudinal line and the two obliquely transverse lines are sutures between strongly chituized parts, the dots represent the points of origin of setæ, which are not shown b, ventral view of head, the large shaded area being the opening from the head-capsule into the thorax an, autenna, la, labrum, md, mandible; mxp, maxillary palp; l, labrum, lp, labrai palp

continued to appear in the rearing-box until 27th June. They afterwards haved for about a week in confinement, but as in this period they were carried down to Dehra Dun, elevation 2100 feet above sea-level, their ordinary period of existence in this stage is likely to be longer. Out of fifty-one larvæ and pupæ six were found to be parasitized by a Tachinid fly. The above observations were made by Mr. C. G. Rogers.

External Anatomy of the Larvæ.—The early stages of Ch. populi have been many times described and figured The length of the cleared specimen of the larva at present under examination, a European example, which is stretched out, is 11½ mm. The body is narrowed anteriorly and more so posteriorly; behind the middle

at is convex dorsally, sloping down gradually in front and more abruptly behind. It consists of the head, three thoracic and nine ensity visible abdominal segments, the small anal sucker representing a tenth segment. Each of the first eight abdominal segments bears a pair of spiracles, one lying on each side, in a dark-pigmented spot; there is only one pair of thoracic spiracles, which are situated one on each side, almost ventrally and anteriorly on the mesothorax, therefore there are altogether nine pairs of spiracles. The larva possesses nine pairs of odoriferous orifices, which are arranged in a series along each side as follows the first pair is on the mesothorax and the next

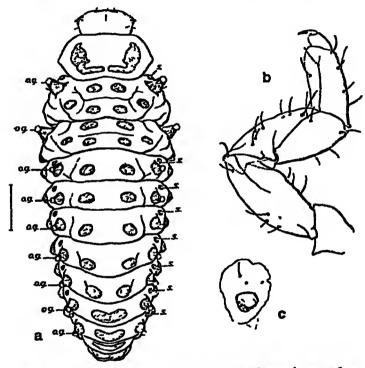


Fig 7 — Chrysomela populs, L., larva —a dorsal view (s., spiracles, og, openings of odoriferous glands), b, tront leg, c, spiracle

on the metathorax, these are similar to each other in size and larger than those of the abdominal segments, and are situated in a line with the abdominal spiracles, the first seven segments of the abdomen bear the remaining seven pairs of these orifices; each abdominal orifice is attuated doiso-laterally slightly posterior to the spiracle of the same segment, compared with which it is much larger and more prominent, the eighth segment of the abdomen has a pair of spiracles but no odoriferous orifices. Viewed dorsally each of these orifices is conical, the body of the

cone being strongly chitimized and the apex leing surmounted by a balloon-shaped membranous structure which is capable of being withdrawn inside the cone. When the larva is agitated

this extrusible structure is distended with fluid.

Dorsally there are two parallel longitudinal series of dark patches, which are strongly clutimized areas, four on the mesothorax, four on the metathorax, and two on each abdominal segment; on the sixth abdominal segment, where the body is considerably narrowed, the two patches have coalesced to form one large mid-dorsal patch; on the seventh, eighth and minth the patches have similarly coalesced, the resulting single patches being larger. On the underside of the abdominal segments there are seven longitudinal series of similar patches, three ventral and four ventio-lateral, two of these latter on each side, owing to the position of the legs these series are somewhat interrupted on the underside of the thorax, but the presence of some natches on the sides of the thorax maintains continuity in the series the underside of the seventh, eighth and minth abdominal segments the three ventral patches have in each case coalesced, as have the patches on the dorsal side.

Including the series of odornferous orifices, the series of spirates, and those of the chitimized patches, there are altogether thirteen longitudinal series of dark spots on the whole body of the larva. The chitimized patches, more especially on the underside, bear a

few fine hairs each.

The head, compared with the body, is very small, being only about two millimetres broad; it is more or less quadrate, dorsally convex, sloping in front, the posterior end being uniformly rounded; along the middle there is a longitudinal suture which meets two oblique sutures, one on each side, reaching the base of the antenna; the antenno are very small, situated anterolaterally and consisting of a base and three segments, the apical one being very minute, posterior to the antenna there is a group of four ocelli on each side, the entire dorsal surface of the head is plain, except for one or two fine sets Mouth-parts. labrum narrow, much broader than long and with a slight emargination in the middle of the anterior margin; mandibles broad, each with three blunt teeth and no molar part; maxille each bearing a foursegmented palpus; labium with a pair of small two-segmented palpi. Thorax the prothorax has a large dorsal shield of hexagonal shape; each of the thoracic segments bears a pair of legs on the underside, each leg is composed of the following segments, coxa, trochauter, femur, and tibia, ending in a strong claw.

Russia.

Colaphellus sophue, Schall

The following is a summary of observations recorded by N. Sacharov in various parts of Russia. The insect has been found breeding on wild Chucifera, and especially on mustaid.

The beetle winters as an image in the soil, or under leaves, stones, etc. The eggs are laid in heaps on the leaves, mostly on their lower sides, but also on the stalks; they are slightly stuck together, and each heap contains from five to twenty-five or more eggs. The egg stage lasts four days, the larva stage eighteen to twenty-one and the pupal ten to twelve days; the larva burrows into the earth to a depth of about half an inch to pupals. The principal damage is done by the larve, which live in colonies and pass from one plant to another. The imagines do not fly readily, and remain on the mustard until it has been cropped; they then pass to criticiferous weeds or vegetables. The beetles also do much harm to cabbages early in spring by destroying the terminal buds

North America.

The Colorado Beetle, Leptinotarsa decembineata, Say.

The history of how this insect became a pest in America is interesting It was a native of the Rocky Mountain region, and until about 1855 was satisfied with feeding upon various common weeds of the same genus (that is, Solanum) as the potato-plant, and of closely-ailed genera With European immigration and the consequent introduction and cultivation of the Irish potato, the balance of Nature was disturbed The beetles, finding large quantities of food easily available, began to make the potato patch their feeding-ground, and rapidly spread eastward. It must also be remembered that they were being continually transported by the shipping of potatoes In 1859 they had reached a point one hundred miles west of Omnha, and in 1864 they crossed the Mississippi into Illinois. They navanced steadily eastward till they were recorded from the Atlantic States in 1874 Today they are found wherever the potato is cultivated in the United States and Southern Canada.

Lefe-history -In the month of October the beetles go underground, where they hibernate till April or May, when the warm weather brings them out. When the food-plant appears above ground, the females lay their yellow eggs on the underside of the leaves near the tips. On an average a femalo can lay about five hundred eggs during the course of a month. Meanwhile the adult beetles have done considerable damage by eating the young and tender plants A large number of larve hatch out within a week and eat ravenously, increasing in size considerably and very rapidly. The larval life covers a period of about two and a half to three weeks, by which time the larve are full-grown and enter the earth, where they form smooth, oval cells in which they undergo their metamorphosis The adult beetles emerge in about a week or two and, after feeding for a couple of weeks, deposit eggs for a second generation Throughout the districts where the insect is most injurious there are two generations a year, but farther south there may be at least a partial third generation, and in the north the species has but one generation a year.

Swaden

Phaedon cochlearia, F.

In 1913-14, A. Tullgren studied the life-history of this beetle in Sweden, where it does considerable damage to horse-radish. The adults hibernate in winter, appearing in spring and ovipositing in June. At the end of this month young larve appear, and in about three weeks they are full-grown, the pupation period being about a fortnight. The new generation of beetles appears at the beginning of August, the succeeding generation being adult at the end of September. The eggs are laid exclusively on the underside of the leaves, generally singly, in small pockets made by the ovipositor of the female. The larve are sluggish, but the beetles are very active. The original host-plants of this insect are probably wild species of Nasturtium, Cardamine and Cochleania, but it has also been recorded from a plant belonging to another family, Veronica beccabunga. It also attacks turnip and cabbage.

England.

Phytodecta viminalis, L.

The following is an outline of the life-history of the insect, which freds on sallow and is sometimes viviparous (see below) larvæ laid May 15th, full-fed June 2nd, pupated June 8th; adults emerged June 20th. They remain for the whole of the rest of the year on the sallows without producing a second generation, and hibernate probably among the dead leaves etc on the surface of the ground, emerging again in the following spring, when they pair and lay the larvæ of the next generation. The original parents, having laid their young in May, survive and continue feeding for the rest of the year, so that from the end of June onwards there are adults of two generations together on the plants Several females which laid young in May 1913, and which therefore emerged from the pupa in June 1912, were still alive in November 1913, their adult life having lasted at least eighteen months The larvæ when first laid are orange-vellow, but they rapidly darken and become quite black. The larvæ, at least when older, possess a pair of dorsal extrusible processes situated close together between the seventh and eighth abdominal segments: they are pink in colour and, when fully extended, about onetwelfth of an inch in length; when the larva is disturbed they are shot out (compare the extrusible vesicles on the back of the larvæ of Chrysomela popula, described above, and the structure and habits of Papilio-larva). The adult has the habit of sitting at the base of a leaf with its head pressed right into the axil, and of falling to the ground when disturbed The above observations were made by C. B. Williams ('Entomologist,' 1914, p 249).

Viviparity in CHRYSOMELINE.

The phenomenon of giving birth to living larvæ instead of laying eggs has been recorded in this subfamily by several writers

٠,

in the genus Chrysocloa, Hope (Urana, Motsch); in Chr villigera, Suffi, Ch cacultae, Schrank, and Ch yloriosu, F, by Champion and Chapman (Trans Ent Soc. London, 1901, pp. 1-17, pls 1, 2), in Ch superba and Ch speciosa by Peiroud (Ann Soc Limi de Lvon, 1855, pp 402-8), and in Ch speciosa, var venusta, by Bleuze (Petites Nouvelles Entomol., Oct 1st, 1874, and Ent Mo Mag, xi, 1874, p 135) According to Perroud, Ch superba only lays one larva at a time, at intervals of about twelve hours Phytodecta viminalis, L, C B Williams has observed (reference given on p 11) that the young are laid in a batch, the number in one family varying from twenty-eight to forty. Amongst a batch of thirty females under observation none (with one doubtful exception) laid a second batch, as occurs, for example, in the Cocci-LL-In an account of the life-history of Ph viminalis, Cornelius in 1857 (Stett Ent Zeit, xviii, p 165) has observed that the bestles laid eggs which batched on the first day He describes the eggs as reddish in colour and cylindrical, slightly pointed at the ends It would appear, then, that the same species can, under different conditions, be either viviparous or oviparous.

Economic Importance.

The Chrisometics are very important from the agriculturist's point of view. They are all plant-feeders, and therefore must be looked upon as potential enemies. Under circumstances favourable to itself a species can assert itself and become a terrible pest—witness Leptinotarsa decambineata, Sav, the well-known Colorado Beetle, which has only by great vigilance been prevented from spreading in Europe as it has done in America. The following is a list of species of this group which are known to attack cultivated plants—

Zygogramma exclamationis, F. America. Wild and cultivated Sanflower.

Leptinolarsa decembinenta, Say. America, Europe Potato
Cornless ferrugineus, Grist West Africa Manihot glaziovii
Colaphellus sophiæ, Schall Europe Mustaid
Gastioidea pelygoni, L. America, Europe Polygonum, Sigarbeet.

Gastroidea viridula, Deg England Dock and Sorrel Gastroidea cyanea, Melsh, var. cæsia, Rog. California Giapevines.

Phaedon armoraciæ, L. Europe. Cracifers
Phaedon assamensis, Jac. India, Assam Mustard
Phaedon codhleariæ, F. Europe Mustard, Hoise-radish
Phaedon viridis, Melsh, var. an ugmosus, Suffr. America
Watercress

Phaedon incertum, Baly Japan Turnip Reraphaedon tumidulus, Germ. England Potato (the ordinary wild hosts of this insect are Unibellifere, Charophyllum, Heracleum, etc.). Chrysomela [Melasoma] anea, L. Norway. Pear.

Chrysomela [Melasoma] cuprea, F. Europe. Willow, Poplar,

Kspen.

Chi ysomelu [Melasoma] lapponica, L. America. Willow.
Chi ysomela [Melasoma] lineutopunctatu, Foist. (scripta, F.). N.
America Willow, Poplar.

Chrysomela [Melasoma] populi, L. Europe. Willow, Poplur. Chrysomela [Melasoma] tremulæ, F. Europe. Willow, Aspen. Phaedonia areata, F (Plugiodera circumcincia, Sahlb) Africa. Cotton.

Paropsides duoilecimpustulata, Gebl., var hieroglyphica, Gebl. Shillong, India. Pear

Phytodecta viminalis, L Europe Willow.

Phytodecta formeatus, Bruggem. Russia Lucerne.

Phyliodecta vulgatissima, L. France Osier. Phyllodecta vitellina, L. Europe Salia.

Entomoscelis adonidis, Pallas. America Turnip and Virginian Stock.

In 'Indian Museum Notes,' vol 111, 110. 5, p. 44, 1894, an insect identified by Jacoby as Phuedon brassica, Baly, was recorded as attacking the mistard crop at Golaghat, Assam. Subsequently Jacoby appears to have altered his opinion and described the Golaghat insect as Ph assamensis, Jac., I think he was correct in regarding it as a distinct species, for I have examined the types of both species in the collection of the British Museum and find them different. Although there is no record of their attacking the mustard crop at Golaghat on the labels of the misect named Ph assamensis in the British Museum, I do not consider it very far wrong to assume that the latter are some of the actual attackers of the crop at Golaghat

On the formation of sy or Tables.

The following remarks are inserted here, as the use of dichotomous tables does not appear to have been always understood by, workers in India.

A dichotomous key or table of a group of organisms is a concise and comparative statement of a selection of characters airanged in a certain way with the object of facilitating the recognition of species rapidly and without difficulty. In designing a key it is also desnable, where possible, to express relationships in the group, but it is not often that the material at hand lends itself to such treatment, because we are not in possession of all the facts. Keys of the three kinds exemplified below, and sometimes several keys of any one of those kinds, may be framed for the same group of organisms, all being equally serviceable. The first principle in making a key should be a proper selection of characters, which should be easily recognizable and yet contradictory in nature, that is to say, the character chosen should be found in one form or in a group of forms, while in the rest it

should be absent, thus dividing the whole group of organisms into two sections From each of these sections a character should be chosen which will again divide the section under review into smaller sections, this process is continued until the species are ultimately separated off. Comparative characters should be avoided as much as possible, for by their use is assumed a previous acquaintance with forms comprising the group for which the key is made Owing to the nature of the material studied, it is sometimes difficult to find exact contradictory characters, and in such cases the statement of a combination of two or more characters may enable one to separate species or groups of species Sometimes it happens that a group of organisms is at once divisible into more than two different categories which are convenient to use, and although in such a case the key is not strictly dichotomous, yet advantage should be taken of the opportunity

The characters having been selected, their actual statement in key-form can be made in three ways, which are illustrated by the following examples namely (1) the spatial form, (2) the

numerical, and (3) the double numerical

(1) The spatial form.

A Anterior coval cavities open behind	
a Antenne passing beyond the base of the pronotum	
a Pronotum black, elytra yellow	Sp no]
8 Pronotum and elytia blown	Sp no 2
a' Antenne not passing beyond the base of the pronotum	
a. Insect blue, with purple stripes on the elytra	Sp no 3
B Insect with no such stripes on the elytra	Sp no 4
A A A I seemboon placed belond	
A Anterior coval divides closed bearing a Lyes emarginate on the priner side	
a Insect elongate, parallel-sided, with the upper side	
W There and and and are the same appearance and appearance and and are the same appearance and are the same are the same and are the same are	Sp no 5
black and underside yellow 8. Insect with no such combination of characters	Sp no 6
D. THEECE WITH HO SUCH COMMONMOOD OF CHARACTER	- P
a Insect reddish-brown, with black patches on the	
	Sp no 7
pronotum Pinsect lighter brown, with no black patches on the	
L Tuesce lighten prown, when no purer beserves on and	Sp no 8
pronotum	
(2) The numerical for m	
	2
1. Anterior coxal cavities open behind Anterior coxal cavities closed behind	5
2 Antenne passing beyond the base of the pronotum	3
Antenne not passing beyond the base of the pronotum	4
Antenne not passing beyond the black of the pro-	Sp no 1
3 Pronotum black, elytra vellow	Sp no 2
Pronotum and elytra brown	Sp no 3
4. Insect blue, with purple stripes on the elytra	Sp no 4
Insect with no such stripes on the elyira	6
5 Eyes emarginate on the inner side	7
Eyes not emarginate on the inner side	
6 Insect elongate, parallel-sided, with the upper side black	C E
	op, no e
and underside yellow Insect with no such combination of characters	Sp. no 6 Sp. no 6

7 Insect reddish-brown, with black patches on the pronotum Sp no 7

Insect lighter brown, with no black patches on the pro- notum	Sp	по	8
(3) The double numerical form.			
1 (8) Anterior coxal cavities open belind 2 (5) Antennæ passing beyond the base of the pionotum 3 (4) Pronotum black elytra yellow 4 (3) Pronotum and elytra brown 5 (2) Antennæ not passing beyond the base of the pro-		no no	
notum 6 (7) Insect blue, with purple stripes on the elytra. 7 (6) Insect with no such stripes on the elytra. 8 (1) Anterior coxal cavites closed behind 9 (12) Eyes emarginate on the inner side		no no	
10 (11) Insect elongate, parallel-sided, with the upper side black and underside vellow 11 (10) Insect with no such combination of characters		no no	_
13 (14) Insect reddish-brown, with black patches on the pro- notum. 14 (18) Insect lighter brown, with no black patches on the pronotum		no no.	_

In the foregoing three imaginary keys the same characters have been used in three different ways. It will be observed that essentially keys no 1 and no. 3 are the same, the categories being stated in the same order. In key no 1 the arrangement of the categories depends upon the space, they being gradually shifted from the left to the right This becomes a disadvantage when a large number of forms is dealt with. Key no. 3 overcomes this difficulty by numbering them as shown, e.g. 1 (8) means that the character contradictory to that stated under I should be looked for under 8 and vice versa. The principle involved in key no 2 is different, the contradictory categories are stated at once, one immediately following the other, and numerals are placed on the right-hand side indicating where the further divisional categories are to be looked for. An important point is that all forms following the statement of a character must possess that character m common for example, in key no. 2, all forms from 1 to 4 (inclusive) possess the character stated under 1, and those after 5 possess the contradictory character; in key no. 3 all forms from 1 to 7 (inclusive) of the first row of numerals possess the character stated under 1 m common, and those after 8 possess the contradictory character; while in the spatial arrangement this principle is obvious. In key no 2 numerals are found on the right as well as on the left margin; in no 3 the numerals are placed on one side, and the cross-references are indicated by numerals in brackets running in a parallel column.

	Key to the Genera of India	n Chi ysomo ¹ race
1	Anterior coxal cavities open behind . Anterior coxal cavities closed (al-	2
2	most closed in APARSHA) behind Claws throughout simple or angu-	13
	larly dilated at the base	3
_	Claws split or cut in the middle	11
3		
	mar, an entirely, or at least towards	
	the apex, with a row of cilia-like	
	Epipleura without cilia-like bristles	4 8.
4	Jumpa comparatively slender, dis-	0.
-	tinctly passing beyond the base of	
	the pronotom	5.
	Antenna comparatively stouter, just	
	reaching or not reaching the base	_
_	of the pronotum	7.
5	Metasterial process bordered all	
	round by a deep furrow, the sides	CHRYSOLINA, Motsch [CHRY-
	as well as the aper. Metasternal process with furrow at	SOMELA, auct. J, p 17
	the sides only, the apernot included	6
6	In ects small, 7-81 mm, coloration	
	metallic, elytra with a postbasal	
	transserse depression, punctuation	A 35 44
	scattered	AMBROSTOMA, Motsch, p 44
	Insects large, 11-141 mm, non-	
	metallic, elvtra with four pairs of longitudinal rows of punctures and	
	no postbassi depression	PARALINA, Buly, p 46
7	Body not spherical, the contrast be-	2.1
•	tween the thickened apical reg-	
	ments of the autenne and the more	
	slender basal segments not strongly	Viennes Pele m 40
	mark	EUMELA, Boly, p 49
	Body spherical, very convex, the con- trust between the thickened apreal	
	segments and the basal segments	
	of the antenne strongly marked	SPHEROLINA, Buly, p 53
8	Base of elytra about twice as broad	
_	as width of prothorax	AGASTA, Hope, p 56
	Base of elytra not so broad	9
9	Elytra with rows of punctures at	Phaedon, Late, p 59
	regular intervals Elytra with no such rows of punc-	Timesoni zite. j F
	•	10
10	Insects small, 5-9 mm .convex, orate,	
10	columntion with metallic shimmer,	
	civiral punctuation with a tendency	Da
	to form rows	Plagiodena, Redl, p 60
	Insects large, about 11 mm, elongate,	
	coloration without metallic shim- mer, elviral punctuation generally	
	confused	CHRYSOMELA. I. [MITLASOMA,
		tcphensl, p 67

^{*} To appreciate this character see by 1+1, p 40

11 Epipleuron vertical PAROPSIDES, Motsch p 71. Epipleuron houzontal . 12 Tibes furnished externally with a spine or tooth PHYTODECTA, Kuby, p 77 Tibes with no such spine or tooth PHYLLODECTA, Kirby, p 83 13. Claws split or cut in the middle 14 Claws simple throughout or slightly augularly dilated near the base . 15 14 Body ovate, strongly convex LYCARIA, Stal, p. 85 78 g Body elongate, more or less parallelsided CHALCOLAMPRA, Blanch, 15 Insect apterous Insect with wings POTANINIA, Weise, p 92 16 Body elongate, counderably narrowed PSEUDOLINA, Jac. p 90 Body ovate, somewhat narrowed behind APAKSHA, gen n, p 95

The genus Synerga, Weise, is not included in the above kev: see iemarks on p 21. Neither does the genus Eutomosceles. Chevr, find a place in the key, since, as explained below (p 9%). I believe that the Indian species referred to it, namely E. metalica, Baly, will prove to be a synonym of Potaninia assamensis; Baly, and that true representatives of Entomoscelis have yet to be found in the region under review.

Genus CHRYSOLINA, Motschutsky.

Chrysolna, Motsch, Schrenck's Reisen Amurl. 11, 1860, p. 206 Chrysomela, L, Syst. Nat. ed. x, 1758, p. 368 (pars), Chapius, Gen. Col. x, 1874, p. 897, Fowler, Col. Brit. Isl. 1v, 1890, p. 301.*

GENOTYPE, Chrysomela staphylea, L (Europe).

In the 'Annals and Magazine of Natural History' for January 1925 ((9) xv, pp. 95, 96) I have explained at length why it is infortunately necessary to propose a new name for the genus known for so long, and by so many authors, as "Chrysomela." In course of determining what is the genotype of Chrysomela, L, I discovered that Latreille in 1810 cited Ch populs for that purpose Unluckily Stephens in 1831 made that common species the type of his genus Metasoma, and as Melasoma populs it has long been known. It follows, however, that Melasoma must fall as a synonym of Chrysomela, L. (see below, p. 67 of this volume), and that another name must be found for the genus so long referred to as "Chrysomela." Among the synonyms that have

For a complete list of references see Weise's Catalogue, 'Coleopterorum Catalogus,' edited by Junk and Schenkling, part 68, Berlin, 1916. In the present work a full bibliography is in some cases not given, because some of the references have no relation to our fauna, only those are quoted which have a direct relation to the Indian fauna or which form part of a large general work containing constructive principles, such as Chapuis' or Fowler's works.

been proposed, some cannot be used, for reasons explained in my paper cited above. But there are several names published in 1860 by Motschulsky as new genera, which have since been sunk as synonyms of "Chrysomela" From among these the name Chrysolina is here selected and a common European species,

Chrysomela stuphylea, L, is designated as its genotype

Since the time of Linnaus this genus has (under the name Chrusomela) at various time served as a repository of almost all misects belonging to this subfamily, but as later writers observed differences in a more critical manner, species were separated off, new genera being proposed to contain them. Even now it is the largest genus in the subfamily. So far as the species within our faunistic limits are concerned, the genus may be characterized as follows —The insects are generally oblong or elongate; in one or two cases they are strongly convex. Head. antennæ always separated by the whole width of the front of the head, rarely passing beyond the middle of the elytra, generally within that limit, frequently shorter; the basal five or six segments differ in structure from the following segments, the former being more slender, shining and less pubescent, while the latter become more or less thicker and opaque; of the basal segments the first is large. thickened and sometimes club-shaped, and the third is the longest. while of the apical segments the last is the longest and often bluntly pointed, the rest being alike in form; clypeus separated from the rest of the surface by a transverse line, which may be curved or may consist of two straight lines meeting at a point in the middle, from which a median longitudinal line generally proceeds towards the vertex, these lines vary in the intensity of their impression, the latter sometimes being obsolete; surface generally punctate, but sometimes the punctures are obsolete, it may be depressed in the middle, the areas round the roo's of the antennæ being slightly elevated, maxillary palpi variable, sometimes having the ultimate and penultimate segments of different lengths, the former slightly longer than the latter or Prothorax: pronotum always broader than long, but sometimes the length so nearly approaches the breadth that the whole looks quadrate; front margin generally concave, fitting the width of the head, front angles more or less produced but always rounded, sides varying in their inclination to each other, the basal margin usually sinuate, upper surface generally princiate, each side having a longitudinal excavation containing coarser and confluent punctures; between the excavation and the extreme margin the surface is generally convex and impunctate or very finely and sparsely princiate, these characters vary so that sometimes the excavation and the punctures may be obsolete, or on the other hand they may be very deep and the convex marginal strips greatly accentuated. Scutellum always triangular, varying within very narrow hunts, among our species impunctate except in a few cases . Elytia almost always slightly broader at the base than

^{*} Ch vishnu. Ch manipurense and Ch calestina.

the prothorax, always punctate, the punctures being in one or two cases completely confused and finely impressed, but as a rule they have a tendency towards an arrangement in rows, which in many cases are paired, sometimes the inter-tices are punctate and sometimes they are not, when the interstitial punctures are very numerous the striæ are rendered unrecognizable; a short scutellar and a sutural series are always observable in the forms with stricted elytia, in one elytron the punctures may vary in size and in the intensity of their depth, the interspatial punctures Underside generally finely punctate, each being generally finer puncture sometimes bearing a fine silvery hair; epipleura of the elytra bronder at the base and narrower in the apical part, the muer edge of which bears a row of cilia-like fine bristles, even if these are not found all along the edge; metasternal process bordered all round by a deep furrow; anterior coxal cavities always open. Leas the claw-segment of the targus always projects much beyond the bilobed segment, the latter being always insplit along its middle, so that consequently the apical edge of the segment is always entire, claws always simple throughout. To summarize the constant characters of the genus. (1) antennæ separated by the whole width of the head (2) they pass at least beyond the pronotum. (3) pronotum always bronder than long, even if only by about one half millimetre, (4) elvtra always punctate; (5) metasternal processes bordered all round by a deep groove; (6) muer edge of epipleuion, at least towards the apex, bearing a row of cilia-like fine bristles, (7) third, a e the bilobed, taisal segment entire, not split longitudinally along the middle, (8) claws simple throughout, (9) unterior coxal cavities always oneu

Range. World-wide.

Key to the Species.

of round unpunctate areas Elytron with no such meas 2 Elytial punctures entirely confised, without any tendency to form lows, not deeply impressed Elitial punctures deeply or teebly impre-sed, either minuged in rows of with at least a tendency to form rows 3 Insect large, length 10 101 mm, opaque, with interstices between the elytral punctui es minutely scratched 1 eticulate Insect small, length 74 nm, shining rich brown, the interstices not renculate or minitely scratched 4 The outer margin all round the elytia bordered with red-brown The outer maigin with no such border 5 Some of the interdices between the clytral rows of pulctures raised

1 Each elytron with five longitudinal series

Ch exanthematica, Wied, 2.

3

Ch indica, Jac, p 24

[p 25

Ch ushnu Hope, p 23

Ch carmata, Jrc , p 20

_	None of the interstices raised	6
6	Each elytion with four well-defined,	
	paired rows of punctures, the punctures	
	in each row closely placed and regularly	
	arranged and the interstices (seen under	
	a high power) very finely punctate,	
	body oblung, parallel-sided.	7
-	No such combination of characters .	8 [p 27
7	Elytral punctures strongly impressed	Ch manipurensis, sp n,
_	Elytral punctures feebly impressed .	Ch dohertys, sp n, p 27
8	Each elytron more sparsely punctate, the	
	punctures arranged in paired rows	
	(though usually incompletely so) and	
	not closely placed in each row, inter-	_
	stices impunctate	9
	Each elytron closely and thickly punctate,	H 4
_	interstices punctate	14
9	Pronotum impunctate (or with at most	70
	one or two scattered punctures)	10
10	Pronotum punctate	11,
10	Prothorax black, elytta dark brown or	
	rufous, body convex, short with apical	[p 28
	end of elytra not tapering	Ch templetons, Baly,
	Body oblong-elongate, convex, tapering	07 1 1 7 1 00
11	towards apex of elytra	Ch krushnu, Baly, p 29
11	Apical segment of maxillary palp conical	
	less stout than the preceding regment;	
	elytral punctures deeply impressed,	07 amilana 00
	more regular in arrangement	Ch ceylonica, sp n, p 30
	Apical segment of maxillary palp trun- cate, not conical, stouter and larger	
	than, or at least equal to, the preceding	
	ergment	12
19	Prothorax almost quadrate, only slightly	
	broader than long, colour dark greenish	
	or purplish, elytra cupreous, antenna	
	and tars black	Ch andrewess, Jac, p 31
	Prothorax transverse, much broader than	, cac, p
	long; colours different	13
13	Insect apterous, colour hown with	
	brassy sheen .	Ch fulvoænea, Jac, p 31
	Insect winged, with brassy sheen, but	
	not brown	Ch madrasæ, Jac, p 32
14.	Insect with brilliant metallic colours and	
	with a longitudinal purple or steel-blue	4.5
	stripe on each elytron	21
	Insect with no such colouring, or at least	16
	without the stripes	15
15	Pronotum (seen from above) having at	-
	each side a deep longitudinal channel	
	bordered by a prominently raised strip, and its surface uniformly punctate with	
	small punctures throughout	Ch calestena, Baly, p 33
	Insect with no such combination of char-	,,,
	nciers	16
16	Insect large, bugth 10 H mm, breadth	
_	6 7 mm, black with cencous sheen on	

ip 34 the upper side, blue on the underside, Ch curulipes, Harold, scutellum blue Insect always smaller and with no such 17. combination of characters 17 Pronotum almost flat in the middle and with haidly any longitudinal depression 18 on either side Pronotum distinctly convex in the middle and impressed on either side, where the [p 35 19 punctures are larger and deeper Ca moonstans, Wiell, 18 Prothorax and elytra concolorous Ch conglomerata, sp n. Prothorax and elytra differently coloured |p 37 19 Body elongate, elytral punctures fine, more or less arranged in liregular lows, Ch karachia, sp n, p 38 upper side smooth Elytral punctures coarse and deep, upper side with a more or less rough appear-20 20. Elytia very thickly punctate, the punctures indistinctly arranged in rows and the surface of the auterior portion of Ch stevensi, Baly, p 39. the elytron indistinctly wrinkled Elytra not very thickly punctate, and with no wrinkling of the surface of the Ch au ata, Suffi, p 41 anterior portion . 21 Insect large, length 8 mm, breadth 5 mm, each elation with two longitudinal, brilliant cupreous bands euclos-Ch bella, Jac, p 39 ing a deep purplish-blue band Insect small, length 6 mm, breadth 3 mm, each elytron with a deep bluepurplish band along the middle on a

[p 40 Ch. coromandeliana, sp 11,

Chrysolina perforate, Redt (p 43), Ch pyrchopyga, Stal (p 43), and Ch. nepalensis, Hope (p 43) are not included in the above key, as it has not been possible to examine specimens of them, but only to transcribe or translate the original descriptions.

general blue-green background without

any cupreous colour

As remarked above (p 17), the genus Synerya, Weise, is not included among the genera of Indian Chrysomeling in this volume. The reason for this omission is as follows Weise gave the tollowing diagnostic characters of Synerya (Arch. Naturg. Ixvi, 1, 1900, p. 283) —The second segment of the maxillary palp is not thickened, and on the underside of it there is a long excavation for the reception of the next segment, the last segment is rotundate and emarginate at the aper The posterior angles of the prothorax are simply marginate The epipleura of the elytra towards the apex are marginate and without hans mesosternum at the anterior margin is fairly thickened and subangulate The metasternum is anteriorly broadly thickened

At the time of founding the genus Weise remarked that the species for which he elected it, namely the East Asiatic Chi yaolinu bella, Jac, was wrongly supposed to be the same as

Ch. cæruleans, Schha, var angelica, Reiche; and in his catalogue (Junk and Schenkling, Berlin, part 68, 1916, p 147) he has recorded bella Jacoby and angelica Baly (nec Beiche) as synonyms of Synerga modesta (Fabr.) I have not seen Synerga modesta (Fabr.), and as I cannot find the above characters of the genus Synerga in the Humilayan specimens of bella which are before me, I have retained bella in the genus Chrysolina, and give here a translation of Weise's remarks. I do not know if Weise saw Jacoby's type of bella, which is in the British Museum.

1. Chrysolina exanthematica, Wiedemann.

Chrysomela exanthematica, Wisd, in Germ, Mag Ent iv, 1821, p 178, Kolbe, Arch Nating In, 1886, p 229
(In ysomela consimula, Balv, Trans Ent Soc Lond 1874, p 172
Chrysomela guttata, Gebl, Mém Ac Mosc v, 1817, p 316, Motschinleky, Schienck's Reisen Annul n, 1860, p 229, Bulv, Trans Ent Soc Lond 1879, p 363, Murseul, Abeille, vv, 1887, p 163, Rybakow, Hoi Ross vin, 1889, p 286, Jacobs, op 1887, p 163, Rybakow, Hoi Ross vin, 1889, p 286, Jacobs, op 1887, p 163, Rybakow, Hoi Ross vin, 1889, p 286, Jacobs, op 1887, p 163, Rybakow, Hoi Ross vin, 1889, p 286, Jacobs, op 188, Jacobs, Kaf Russi 1909, pl 57, f 31 (nec F)
Chrysomela guttata, Gebl, vai marseula, Weise, t c, p 200
Chrysomela guttata, Gebl, vai marseula, Weise, t c, p 28, Lithoptei a musiva, Gebl, Ledeb Reise, n, 3, 1830, p 215, Motsch, Schrenck's Reisen Amurl n, 1860, p 210
Chrysomela speculifica, Redt, in Hugel, Kisshmir, iv, 1848, p 558
Lithoptei a subænea, Motsch, Schrenck's Reisen Amurl n, 1860, p 229, pl 11, f 13, Marseul, Abeille, vii, 1878, p 151 (nec Suffi)

Body oblong, moderately convex Colour deep metallic steelblue or violet, in many specimens the colour of the upper side is mixed with cupreous sheen, the terminal portions of each of the basal segments of the antennæ and those of the ventral plates of

the abdomen being edged with brown

Head closely punctate, Y-shaped mark feebly impressed Antenna passing beyond the pronotum to a certain extent, moderately stout, the six or seven basal segments shining, the apical four or five pubescent and more increasate, the third segment hardly longer than the fourth, the second nearly half the length of the third Prothorax almost twice as broad as long, sides rounded and narrowed anteriorly, anterior angles acute but rounded, upper surface closely punctate, each side having a longitudinal convex area which is separated from the disc by a band of coarse and confluent punctures, the surface of the convex area being also closely punctate Scatellium ovate, smooth, impunctate Elytra broader at the base than the prothorax, with sides more or less pitallel, broadly rounded towards the upex, upper surface very closely and irregularly punctate, each elytron has five longitudinal and parallel rows of smooth, shiny, impunctate round spots, these latter are not of equal size, some being larger than others; the row along the suture terminates at about the middle, all the rows are more or less convergent on the apical area, and

there are altogether about fifty spots in all the rows on each elytron' Underside spaisely and finely punctate.

Length, 81-91 mm.

Bengal Berhampore (Atkinson), Murshidabad North-West Frontier N.W. Himalayas (G. Biyant), Peshawai, Taru, iv. 1916 (T Bainbigge Fletcher, Pusa Coll.), Klyber Pass, Alimasjid, 25 iv. 1916 (T. B Fletcher, Pusa Coll.). United Provinces: Dehra Dun, Doiwala, 7 vin 1922 (N C Chattergee), Rankhet Division, Kumaon, vi 1920, 1 example (H. G. Champon). Punjab Gurdaspur, 15 x 1918 (Pusa Coll). Bihar Pusa, 23. vi 1905 (C. S. Misia); same locality, ni 1921 (both Pusa Oull) Rajputana Kulu. This insect has a very wide distribution, having been taken in Siberia, China and Japan.

Type probably in Copenhagen.

2. Chrysolina vishnu, Hope.

Chrysomela wshnu, Hope, in Grav, Zool. Misc. 1831, p. 30. Buly, Trans Eut Soc Lond 1879, p 189, pl 2, f 14
Chrysomela cingulata, Baly, Journ of Ent 1, 1860, p 97, id., t c,

1861, p 301 Diphy: hynchus gemnatus, Allard, Bull. Soc Ent. France, 1896,

p 320, Lesne, op cit, 1915, p 189.*

Body elongate - ovate Colour blackish - meeous or obscure cupreous, antennæ blackish-blue, outer margin bordered with tulvous-reddish

Head finely out distinctly punctate, the punctures scattered on the forehead, rather more crowded on the lower portion of the Autennæ slender, shorter than half the body, their apical segment oblong-evate with its apex subacuminate, the three basil segments more or less fulrous beneath, the third hardly longer than the fourth, the second about half the length of the third, the five basal segments shining, the rest opaque and finely Prothorax twice broader than long, sides nearly straight and parallel behind the middle, narrowed and rounded m front, more suddenly narrowed at the apex, upper surface with its lateral boilders raised, convex and bounded internally by a broad, shallow, longitudinal depression, more distinct at the base, the surface of which is covered with large, deeply impressed, nregularly confluent, variolose punctures, disc, together with the convex margin, rather remotely covered with district but fine Scutellum smooth, shunng, senn-ovate, with a few punctures at the base. Elytia slightly broader than the prothorax, five times its length, sides subparallel, each elytion with eleven rows of distinct, deeply impressed punctures, this includes

^{*} This species was described by Allard as a Tenebrichid, but in 1915 Mons Lesne pointed out that it is really a Chrysolina. I have recently sent two authentic specimens of Ch. wilnu. Hope to Mons Lesne, who, on comparing Allard's type with them, found it to be identical

the short scutellar row, next to which is a row running parallel to the suture; the outermost row is finer and placed on the extreme edge of the rufous bonder and between these extremes the eight other rows form four double series placed at nearly equal distances on the disc, the interspaces vaguely and distantly reticulate-strigose, minutely and somewhat remotely punctate *Underside* shining, distantly punctate, legs covered rather sparsely with deep punctures

Length, 7-9 mm

NEFAL (type-locality) DARJEBLING DISTRICT: Lebong, 5000 ft, 1x 1908 (H M Lefroy, Pu-a Coll), Kurseong, 5. x 1908 (Lefroy), and 5000 ft, 7-20. vi 1922 (Fletcher, both Pusa Coll) Sikkim Mungphu (Atkinson) United Provinces Almora, Haldwani District, Kumaon, xi 1917, viii 1919, vii 1920 (H G. Champion), 8 examples, Mussoofe, 7500 ft, viii 1906 (Lefroy), Johkon, 16. v 1915 (Pusa Coll)

Type in the Hope Collection

Nearly allied to Chrysolina manquiata (Europe), but easily separated from that species by its larger size, fluer punctuation, and above all by the different form and greater length of the terminal segment of its antennæ, which organs themselves are also more slender than in Ch murquiata. In the present species the last segment is more slender and nearly twice the length of the penultimate, whilst in the other species it is broader, shorter in relation to the penultimate, and more regularly ovate, with its upper edge towards the apex oblique

3 Chrysolina indica, Jacoby

Che ysomela undica, Jac, Entomologist, xxvi, Suppl 1893, p 105

Apterous Body very strongly convex in the middle Colour opaque greenish- or bluish-æneous, antennæ and tarsi black, erytra reddish-fulvous, more or less æneous, with sometimes the sature obscure æneous

Head opaque, finely and sparnigly punctate on the upper area, the lower part including the clypeus more strongly punctate. The antennæ nearly extending to a fluid of the elytra, the third segment distinctly longer than the fourth and twice as long as the second, the apical segments more thickened than the basal ones. Prothorar twice as broad as long, broader in the female, the sides slightly rounded and widened towards the apex, the anterior angles rounded, not produced, the disc inregularly, strongly but remotely punctate, the sides with a longitudinal convex border bounded inwardly by a furrow, not strongly marked, but more closely punctate than on the disc, where the punctuation is scattered and consists of a mixture of finer and coarser punctures of varying degree. Scatellum almost as broad as long, with the base straight and apex widely rounded, smooth and impunctate.

Elytra strongly 10 unded towards the middle and very convex, scarcely shining, very finely, closely and irregularly punctate, the interstices minutely scratched. Prostei num strongly longitudinally sulcate

Length, 10-101 mm.

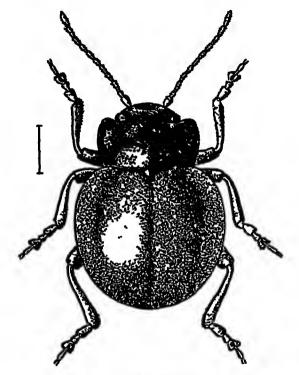


Fig 8 — Chrysolina indica, Jac

MADRAS Madura, Cuddapah, 17 June, 1910 (Rev. T Campbell). Shembaganur, Palm Hills, 6000 it, 6 examples (Pusa Coll).

Type in the British Museum

4. Chrysolina longicornis, sp. nov.

Body convex, narrowed posteriorly Upper side shining rich brown with a slight brassy sheen, antenna and underside deeper brown or pitchy brown, the suture and the basal margin of the elytra and pronotum narrowly edged with black

Head large, quadrate, moderately closely and finely punctate, clypeus depressed, separated from the rest of the surface by an impressed transverse curved line, the longitudinal, median line almost absent. Antennæ long, slender, first segment large,

thickened, second segment small, nearly half the length of the third, fourth, fifth, and sixth, which are almost equal one to the other, each of them shorter than the third, the next five segments similar but very slightly thicker, the last pointed. Protherux broader than long, front margin almost straight, sides and basal margin also straight, anterior angles slightly drawn forwards and rounded, posterior angles right angles, upper surface gently convex from side to side, fairly closely and finely punctate. Scutollum broadly triangular, smooth, impunctate Elytra not broader at the base than the protherax, but, immediately behind the base, broadened, attaining their greatest width about the middle, then narrowing towards the apex; smooth, shining, confusedly and thickly covered with very fine punctures. Underside smooth, shining, very spaisely and finely punctate

Length, 71 mm., breadth, 5 mm, length of antenna, 5 mm.

PONDICHERRY

Type in the British Museum; described from one example.

5. Chrysolina carinata, Jacoby.

Chrysomela carınata, Jac, Ann. Soc. Ent Belg xlv11, 1903, p 94.

Apterous Colour metallic greenish or mneous, antennæ black,

elytra obscure cupieous, opaque

Head almost impunctate. Antennæ rather slender, more than halt the length of the insect, the third and terminal segments longest, the fourth and following segments of equal length, the second about half the length of the third Protho ax twice as broad as long; sides very feebly rounded, with a longitudinal. strongly convex area, bounded inwaidly by a deep longitudinal furrow, the convex area spar-ely impressed with a few punctures, the disc convex from side to side and impunctate, except for one or two stray punctures, anterior angles acute and rounded, posterior almost 11ght angles Scutellum greenish, impunctate almost as broad at the base as the prothorax, then widened and pointed at the apex; each elytion with a scutellar row, a single sutural row and four imperiectly arranged double rows of deep punctures, the latter in each row not closely placed. In the male the intervals are more feebly raised, the elytra dull coppery, and the first segment of the anterior tarsi broader In the female the colour may be more lustrous, along the suture especially, the intervals between the elytral rows are more strongly costate, the one between the flist and second rows of punctures, near the suture, is broad, the other four are more sharply raised, the third and fauth costs reuniting below the middle. Underside finely and rather closely punctate, shiming.

Length, of 7-8 mm, 99 mm

NILGIRI HILLS

10

Type in the British Museum.

6. Chrysolma manipurensis, sp. nov.

Budy oblong, almost parallel-sided, rounded towards the apex and somewhat convex behind the middle. Upper side very dark

biassy, black mixed with dark green.

Head broad, vertex finely and sparsely punctate, anteriorly (including the clypeus) more coarsely punctate; the clypeus delimited by a strongly impressed cuived line, the longitudinal median line hardly perceptible. Antennæ less than halt the length of the body, the six basal segments shining, the five apical ones slightly thicker, pubescent and opaque, first segment thickened, second small, nearly half the length of the third, the latter longer than the fourth, fifth and such segments each equal to the fourth, the last pointed. Prothorax broader than long, almost as broad at the buse as the elytra; auterior margin widely emarginate, basal margin strongly bisinuate, sides straight near the base, widely rounded anteriorly, anterior angles rounded, posterior acute, the central disc gently convex from side to side, closely and uniformly punctate with fine punctures; each side is longitudinally convex, with similar fine punctures, and is bounded inwardly by a longitudinal deep furrow in which are much coarses and larger punctures. Scutellum ovate with apex much narrowed, its surface near the base, seen under a high power, with a lew fine punctures, the rest impunctate Elutra almost as broad as the prothorax at the base; each elytron has the following rows of moderately strong punctures a short scutellar row of a few punctures, a single sutural row reaching light to the apex, four pans of rows in which the punctures are regularly arranged, being placed close to each other, interstices smooth and very finely punctate, the punctures being more in number on the apical area than anteriorly, this is better seen under a high Under side finely and sparsely punctate throughout.

Length, 8 min; breadth, 5 min. Assau Manipur (Dokei ty).

Type in the British Museum. Described from two examples.

7. Chrysolina dohertyi, sp nov.

Body oblong, parallel-sided, convex behind the middle, somewhat nairowed posteriorly towards the apex. Upper side shining black with purple and brassy reflections; underside black and less

shining

Head broad, impunctate (under a high power a few very initial and scattered punctures may be seen); divpous definited by a well-impressed curved line, vertical longitudinal median line faintly impressed. Antenim a little surpassing the base of the pronotion, the five basal segments shiring, the next six regments thickened and opaque, first segment large and thickened, second much smaller than third, fourth and lifth each shorter than the third, the last segment long and with a pointed apex. Protherax broader than long, front margin widely emarginate, sides slightly

rounded, basal margin gently sinuate, anterior angles acute and rounded, posterior angles almost right angles; central disc gently convex from side to side and uniformly covered with fine punctures, a longitudinal area on each side convex and impunctate, bounded inwardly by a broad longitudinal depression containing coarse and confluent punctures. Scutellum small, triangular, with surface impunctate Elytica as broad at base as the protholax, each elytron bears the following rows of fine and feebly impressed punctures: a short scutellar row, a sutural row extending right to the apex, and four pairs of almost equidistant rows, the punctures are closely and regularly placed, the interstices smooth and very sparsely covered with very fine punctures, which can be seen under a high power. Underside smooth and impunctate Length, 7 mm; breadth, 4 mm

BURMA. Ruby Mines (Doherty)

Type in the British Museum Described from five examples.

8 Chrysolina templetoni, Buly.

Chrysomela templeton, Baly, Journ of Ent 1, 1860, p 93, 1d, t c, 1861, p 301

Chrysomela jole, Stål, Öfv Vet-Ak Forh xvii, 1860, p 463

Chrysomela gahan, Jac, Entomologist, xxxii, 1899, p 81

Body convex. Colour obscure blackish-meneous, shining, elytra obscure rufous, antenne black

Head nearly impunctate. Antennæ slender, more than half the length of the body, slightly incressate towards the apex, the four basal segments shining and hanless on the upper side, the rest covered with silvery hairs, first segment thickened, second small, nearly half the length of the third, fourth and fifth segments each shorter than the third, sixth elongate, the last pointed twice broader than long, sides slightly dilated from the base to before the middle, thence rounded and narrowed to the front end, upper surface smooth, shining and impunctate except for one or two punctures impressed here and there, sides longitudinally convex, bounded inwardly by a longitudinal depression Soutellum semi-ovate, smooth and impunctate Elytra subglobose, smooth, shining; each elytron impressed with ten lows of distinct punctures including a short scutellar row, the next runs parallel to the suture, the others arranged in pairs, the puncturing of the outer pair more distant than in the rest; all the rows less distinct and nearly obsolete, and with the punctures in each row irregular and far apart, near the apex; outer margin impressed with a single row of fine punctures, the whole surface is covered with round black spots, except, to a certain extent, the impunctate interstices between the double rows; these black spots have the appearance of being underneath the shining surface. Underside finely punctate: legs slender, rather elongate.

Length, 7-8 mm.

CEYLON

Type in the British Museum.

9 Chrysolina krishnu, Baly.

Chrysomela krishnu, Baly, Ann Mag Nat Hist. (3) x, 1862, p 21. Chrysomela semifulva, Jac, Entomologist, xxvi, Suppl. 1893, p. 106

Body narrowly oblong-ovate, pointed towards the apex of the elytra, its shape is characteristic. Colour metallic dark bluish or slightly purplish, or bright cupreous, elytra sometimes obscure fulvous with a purplish gloss.

Head broad, impunctate, greenish; clypeus depressed and separated from the rest of the surface by an angular impression, the longitudinal median line feebly impressed. Antennæ extending to the base of the elytra or just a little beyond, black,

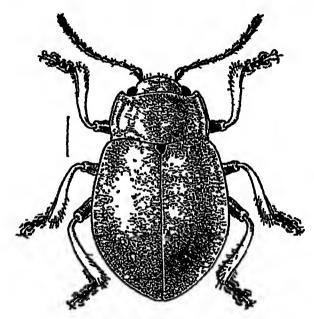


Fig 9 - Chrysolina krishnu, Baly.

the terminal segments gradually thickened, the four basal segments more shiring than the rest, which are opaque and pubescent; first segment large and thickened, second small, nearly half the length of the third, fourth and fifth each shorter than third. Prothorax more than twice as broad as long, lateral margin straight towards the base, slightly rounded anteriorly, disc impunctate, with a central feebly impressed longitudinal line, which may be absent in some cases, from the base to the front margin; the sides thickened, bounded within by a longitudinal furrow extending the whole length; metallic greenish, the disc more obscure purplish. Scutellum semi-ovate, smooth, impunctate, apex broadly rounded. Elytra scarcely broader at the base than the prothorax, dark fulvous with a slight purplish gloss; each elytron with four

double rows of well-impressed punctures, a short scutellar row of a few punctures and a single row placed near the suture, the punctures very distantly placed and at unequal distances in the rows. those of the third double row are quite irregularly distributed, with scarcely any arrangement in pairs, the extreme lateral margin is also impressed with a low of deep punctures. There is con siderable variation in the puncturing and airangement of the rows. also in the depth of impression, sometimes the punctures are comparatively more crowded near the base and more distant on the hunder half of the disc In one specimen in the British Museum Baly attached a separate (unpublished) name, Ch. dormura, owing to the insect having the punctures in a more or less obsolescent condition, but I think it is merely an example of Ch hishny it 18, like the rest, from South India The punctures themselves are deeply coloured in the centre Underside and legs greenish. scarcely punctured; prosternum without a longitudinal furrow.

Length, 81-9 inm

South India. Octacamund. Also one example from the Nilgiri

Hills (Pusa Coll)

Types of both krishin and semifulva in the British Museum; having examined both, I am convinced that semifulvu is a synonym of krishin.

10 Chrysolina ceylonica, sp nov.

Body oblong, broader posteriorly, convex Colour brilliant metallic blue, sometimes with bright cupreous sheen on the elytra;

underside less brilliant than upper side

Head broad, sparsely and finely punctate, clypens depressed, separated from the rest of the surface by an impressed curved line which is interrupted in the middle by a slightly elevated longitudinal area along the median line Antenna moderately stout, passing a little distance beyond the base of the pronotum. the five basal segments shining, the next six segments more thickened and opaque, first segment thickened, second small, nearly half the length of the third, fourth and fifth each shorter than third, each of the following segments becoming gradually slightly larger. Prothorax broader than long, sides straight towards the base, rounded auteriorly, front margin widely emarginate, basal margin almost straight from the middle to the side. anterior angles rounded, posterior almost right angles. surface gently convex from side to side, with a few scattered and deeply impressed punctures in the middle area, the lateral longitudinal area longitudinally convex; bounded inwardly by a longitudinal depression in which are coarse and confluent punctures Scutellum more or less triangular, with base straight and apex rounded, the surface smooth and unpunctate Elytra broader at base than prothorax, each elvtron has the following rows of punctures a short scutellar row of a tew punctures only, the next row along the suture, then four pans of rows, punctures

deeply impressed, regularly arranged, interstices impunctate. Underside sparsely covered with silvery hairs on the abdominal sternites, and gene ally impunctate.

Length, 9 mm; breadth, 6 mm

CEY LON

Type in the British Museum. Described from two examples.

11 Chrysolina andrewesi, Jacoby.

Chrysomela and ewes, Jac, Ann. Soc Ent Belg xlvii, 1903, p 95.

Apterous Colour dark greenish or purplish, elytra cupreous

in some specimens, antenno and tarsi black.

Head very sparsely covered with fine punctures, clypeus demessed and the longitudinal median line feebly impressed. Autennæ rather short, passing a little distance beyond the pronotum, the six terminal segments slightly thickened, opaque and pubescent, first segment large and thickened, second small, about half the length of the third, fourth and fifth each shorter than third, sixth still shorter, the last pointed. Prothorax almost quadrate, very slightly broader than long, sides rounded anteriorly, anterior margin emarginate, basal maigin straight from the middle to the side, disc with some few fine punctures, in some specimens more numerous; each side with a longitudinal convex area, hearing some deep but very riregular punctures, more or less crowded, in an obsolete longitudinal depression along the convex Scutellum impunctate, sharing the colour of the prothorax. Elytra more or less cupreous with a purplish sheen; each elytron has a short scatellar row of a few punctures, a single sutural row and irregularly arranged double lows, the punctures numbering altogether about seventy or eighty, interstices impunctate. Underside and legs metallic greenish and nearly impunctate.

Length, 81 mm, breadth, 51 mm.

NUGIRI HILLS (But Mus.) Also one example from Octaca-mund (Coll Champion ex Tomlin).

Type in the British Museum

Very clo-elv alhed to Ch knishni, Baly, from India, but in that species (1) the pronotum is entirely impunctate and the sides are longitudinally sulcate without punctures, (2) the elytral punctures are closer and more regular.

12 Chrysolina fulvoænea, Jacoby.

Chi ysomela fulvocenea, Jac, Mem Soc Ent. Belg. vii, 1900, p 118

Apterous. Obscure fulvous, with meneous gloss.

Head broad, depressed in the centre, with a few feebly impressed punctures, more on the clypeus than on other parts; clypeus delimited by two well-impressed lines meeting the faint median longitudinal line in the centre. Antennæ rather shorr, reaching the base of the pronotum, the five terminal segments

thickened and pubescent: first segment thickened, second, fourth, fifth and sixth each shorter than the third. Prothorax transverse. much broader than long, sides straight towards the base, rounded anteriorly, anterior angles blunt and rounded, posterior right angles, anterior margin deeply concave, basal margin straight from the middle to the side, disc with a few fine scattered punctures. the sides very deeply and partly confinently punctate, the punctures extending close to the margins, which latter are not longitudinally convex. Soutellum impunctate, smooth, evate. Elutra evenly convex, obscurely fulvous with a strong metallic biassy lustre; each elytron with a short scutellar series of punctures. then a single row of fine punctures placed close to the suture. then follow four irregular double rows of punctures, a few of the latter increasing in size at the sides, the space between the last row of punctures and the margin impunctate and smooth, the other interstices also impunctate Underside elytral epiplenre broad and smooth; abdomen pale fulvous with a greenish metallic gloss, and sparsely and finely punctate.

Length, 8 mm , breadth, 51 mm.

BOMBAY Poons

Type in the British Museum

13 Chrysolina madrasm, Jacoby

Chrysomela madrasæ, Jac, Mém Soc Ent Belg vn, 1900, p 118

Winged, very convex. Eneous, with antennæ black Head broad, with a few extremely fine punctures, clypeus separated by a well-impressed semicircular line, the longitudinal median line feebly impressed, labrum piceous, margined with flavous Antennæ passing a little beyond the pronotum, first segment flattened, broad, third segment the longest, the following three segments equal, as long as the second, the seventh, eighth and minth segments thickened, the terminal two Prothorax nearly twice as broad as long, more elongate lateral margins straight towards the base, rounded anteriorly, front margin widely emarginate, basal margin straight from the middle to the side, anterior angles rounded, basal almost right angles, disc sparingly but rather strongly punctate, the sides covered with deeply impressed, large, confluent punctures. Scutellum smooth, impunctate. Elytra very convex, broader at the base than the prothorax, very smooth, shung; on each elytion the punctures are rather irregularly approximated in four double rows, those near the suture very indistinctly so, while these latter are much smaller and much more feebly impressed than those on the outer area, a short scutellar row of fine punctures can also be recognized; interstices impunctate. surface impunctate and smooth, legs rather slender.

Length, 8-9 mm, breadth, 5-7 mm.
SOUTHERN INDIA Madias (Brit Mus) Chik-Ballapur,
Mysore, 2 examples (T V. Campbell, in Coll. Champion)

Shevaloy, Madras, 4000-5000 ft, viii. 1907, 14-22 x 1912 (Fletcher). Coorg, Pollibetta, 24 x-16 x1 1915, on Lantana (Fletcher) Gudalur, Nilgiri Hills 12. ix 1917 (Naganath). Castle Rock, Kanara, 1900 ft, 8 ix 1918. Igatpuri, 2000 ft, iii 1908 (D. Nowrojee) Belgaum, 2000 ft, iv. 1908 (D. Nowrojee) All the last six records are from the Pusa Collection which contains 15 specimens in all This seems to be a predominantly, if not exclusively, South Indian species

14 Chrysolina coelestina, Baly

Crossta colestina, Baly, Trans Ent Soc Lond. 1879, p 198, Marseul, Abeille, xxi, 1883, p. 104, Weise, Wien Ent Zeit. xiii, 1894, p 154

Body elongate, subparallel Upper side shining deep blue or violet, underside black mixed with blue.

Head broad, sparsely but distinctly punctate, punctures on the vertex finer than those on the clypeus, the latter depressed.

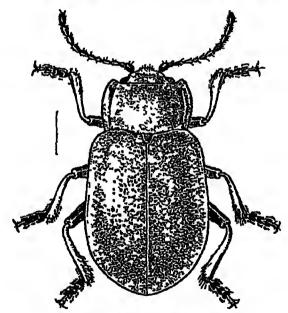


Fig 10 - Chrysolina calestina Baly

Antennæ slender, less than half the length of the beetle, the six basal segments shining, the next five slightly thickened and opaque; first segment thickened, second small, almost half the length of the third, fourth, fifth and sixth almost equal to each other, each being shorter than the third, the rest of the segments equal to each other, the last being a little more elongate and pointed. Prothorax a little broader than long, front margin vol. II.

shallowly emarginate, the sides gently convex from base to apex, basal margin as a whole slightly sinuate, anterior angles rounded. posterior obtuse, surface gently convex from side to side. uniformly and more or less closely punctate with the same kind of fine punctures throughout, each side has a longitudinal. prominently raised strip which is bounded internally by a deep. sharp channel Scutellum triangular, small, with surface punctate Elytia broader at the base than the prothorax, basal margin thickened, surface confusedly and closely punctate, on each elytron, however, the following rows can be recognized, though the punctuation on the interspaces renders the longitudinal strice indistinct a short scutellar row, a sutural series, then four pairs of series, the punctures forming the pairs of series, particularly those on the basal and middle areas, are stronger Underside sparsely and moderately strongly punctate In the male the tarsal segments of the anterior legs are more dilated than those of the female, and all the tarm except the posterior pair have the felt covering intact, in the female the auterior tarsal segments are smaller and the felt covering of the segments is imperfect, only represented by a bristly fringe, leaving the central area smooth and shining

Length, 8-10 mm, or endth, 4-5 mm

NW HIMALAYAS Peshawar (E Y Watson) Nami Tal, May-June Dehra Dun, 29 m 22 (S N Chatterjee) Simla, viii 1909, 3 examples (Pusa Coll) W Almora, Kumaon, UP, viii 1909 (H G Champion) Lansdowne Division, UP (F W Champion) Kangra Valley, 4500 ft, vii-x 1899 (Dudgeon) All the last three records from Coll Champion Baly records it also from Northern China and Persia

Type in the British Museum

In 'Coleopterorum Catalogus,' part 68, p 82 (1916) Weise places this species as a synonym of Chi ysamela mutabilis, Hope I have seen the types of this latter insect and of Baly's Crosita calestina, which are in the British Museum Hope's insect is a Galei ucid and Baly's is a true Chrysolina

15. Chrysolina cœrulipes, Harold

Chrysomela coerulipes, Gemminger and Harold, Cat Col xi, 1874, p 3417

Chrysomela orientalis, Wiedemann (nec Oliviei), Zool Mag 1, 3, 1819, p 179

Chrysomela pascoer, Maxwell-Lefroy, Indian Insect Lafe, 1909, p 360 *

Body elongate, broad large Black with seneous sheen, head with a green tinge, underside and scutellum blue

Head broad, moderately closely and distinctly punctate, clypeus depressed and separated by a deep curved line, the longitudinal

^{*} Maxwell-Lefroy cites this as C pascoes, Jac but as far as I am able to find out, pascoes is a manuscript name proposed not by Jacoby but by Baly

median line absent. Antennæ short, passing a little distance beyond the base of the pronotum; first segment thickened, second small, shorter than third, fourth and fifth each shorter than third, fifth slightly shorter than fourth, the sixth to the eleventh more thickened and rounded, opaque and pubescent. Prothorax broader than long, front margin widely emarginate, sides straight towards the base, rounded anteriorly, basal margin almost straight and slanting towards the front from the middle to the side, auterior angles rounded, posterior almost right angles, surface gently convex in the middle, covered with punctures of various sizes and of varying degrees of fineness and coarseness; each side longitudinally convex from the base to the front, the convex area being bounded internally by an equally long depression containing coarse and confluent punctures. triangular, smooth and impunctate Elytra broader at the base than the prothorax, more or less parallel-sided, irregularly punictate. for although the tendency towards the formation of rows and the usual scheme of a short scutellar, a sutural and four double rows can be recognized, yet the confused punctures on the interspaces render the regularity of the rows indistinct; the punctures are deeper and larger in some parts and smaller in others. Underside very sparsely covered with short silvery hairs, each rising from a puncture.

Length, 10-11 mm; breadth, 6-7 mm.

Bengal Berhampore; Puss, Bihar, 8.1v. 1894 (Pusa Coll.); Chapra (Mackenzae, Pusa Coll.); Cuttack, Orissa, xi. 1905 (C. S. Misra, Pusa Coll.) Central Provinces. Balaghat, in 1907 (Pusa Coll.) Chemitalis, Wied, was originally described from Bengal; the locality given by Gemminger and Harold for carulipes is "India or."

Type probably in Copenhagen

16 Chrysolina inconstans, Wiedemann.

Chrysomela inconstant, Wiedemann, Zool. Mag 11, 1, 1823, p. 74.
Chrysomela democratica, Duvivier, Ann Soc Ent. Belg. xxxv, 1891,
C r n 48

Chrysomela bonvoulour, Baly, Ann Mag Nat Hist (3) x, 1862, p 23, Jac, Ann Soc Ent Belg xl, 1898, p. 251

Body narrowly onlong, incderately convex. Colour bright cupreous or dark bronze, in some cases blue, antennæ black,

head, scutellum and legs obscure æneous

Head irregularly and moderately closely punctate, vertex with a central longitudinal impression, clypens separated by a deep triangular impression. Antennæ almost half the length of the body basal segment thickened, second short, third longer than fourth, fourth and fifth equal in length, the five apical segments slightly thickened and opaque, the last segment pointed. Protherax two and a half times as broad as long, the sides gently rounded and narrowed anteriorly, anierior margin broadly concave, basal

margin almost straight from the middle to the side, anterior angles rounded, posterior almost right angles; upper surface smooth, distinctly but sparingly punctate on the disc, the punctures being irregularly crowded, they are deeper, more numerous and in some cases confluent on the lateral area, but they do not reach the margin, thus leaving an impunctate, narrow, longitudinal strip, with hardly any longitudinal depression along its inner side Scutellum semi-ovate, smooth and impunctate Eligitia slightly broader than the prothorax, their sides nearly parallel, front margin rounded, surface of each elytron covered with rows of deeply impressed punctures, but on the posterior half many of the rows are obsolete, a short scutellar row, a sutural row and the usual double rows are present, punctures in the rows are irregular, the interspaces

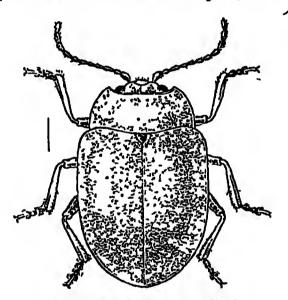


Fig 11.-Chrysolina inconstans, Wied

remotely and very finely punctate This species values in the amount and also in the depth of the punctuation of its surface *Underside* very sparsely covered with fine punctures, each bearing a small silvery hair

Length, 7-8 mm., breadth, 5 mm.

INDIA (Bretingham, type-locality of bonvoulour; Ch. inconstans was described from Bengal) UNITED PROVINCES Haldwani Division, Kumaon, viii 1921, 1 example (H. G. Champion) BENGAL. Dacca, 12. 1 1906; Comillah, 25 1 1906 (both Pass Coll.), Manikganj, Dacca District, 26 x 1906 (C. S. Misia, Pusa Coll.). Ceylon.

Type of bonvoulouri in the British Museum, that of enconstans presumably in Copenhagen and that of democratica presumably in

Brussels

This is a very variable species. Though I have not seen the type of inconstant, I cannot, from the description, distinguish it from bonvoulour. Weise (Coll Cat, part 68, 1916, pp. 61, 76) catalogues the two as distinct species, but places democratica as a synonym of inconstant, and I follow him in this latter finding

17 Chiysolina conglomerata, sp nov.

Body elongate, oval Head and pronotum blue, with or without a biassy tinge, scutellum sharing the colour of the pronotum, elytia shining blown, underside brown is some parts and blue in others, or in some cases almost entirely dark blue

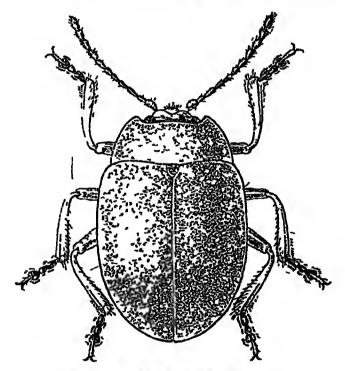


Fig 12 - Chi yedhna conglomerata, Maulik.

Head sparsely and finely punctate, clypeus triangular, depressed, median longitudinal line finely, in some cases faintly, impressed. Antennæ slender, iess than two-thirds the length of the body; first segment thickened, second shorter than third, fourth, fifth and sixth each shorter than third, the next segment slightly thickened, opaque and pubescent Prothonas broader than long, front margin emarginate, sides almost straight, slightly narrowed anteriorly, basal margin almost straight from the middle to the side, anterior angles acute and rounded, posterior almost right angles, middle area only slightly convex, sides with hardly any longitudinal depression, surface with punctures of various sizes

and depths, sparses on the central area, closer, conser and confluent at the sides, not reaching the lateral margin, thus leaving a longitudinal impunctate strip which may be slightly convex. Scutellum small, ovate, smooth, impunctate Elytra very slightly broader at the base than the prothorax, unegularly punctate, the punctures having a tendency to form rows as is usual in the genus. the interspaces more minutely punctate Underside sparsely and finely punctate

Length, 62-72 mm.; breadth, 4-12 mm
BENGAL Berhampore (Brit Mus), Patna, n. 1906, on wheat, Chapra (Mackenzie), Pusa, Bihar, 3. v. 1907 (Lefroy); these records are from 3 examples in the Pusa Collection Provinces. W. Almoia, Kumnon, 2 specimens (H G Champion).

Type in the British Museum Described from ten examples This may be a variety of Ch inconstant, Wied., but as the ten examples are constant in the general scheme of their coloration, I propose to treat it as a separate species until evidence to the contrary is forthcoming

18 Chrysolina karachia, sp nov

Body elongate Colour blue-black with brassy sheen, underside brown, but not the legs, which share the same colour as the

upper side.

Head broad, with a few fine scattered punctures, more numerous in some specimens than in others, clypeus delimited by a wellimpressed, transverse, curved line, longitudinal median impression more or less faint. Antenue nearly halt the length of the body , first segment large, thickened, second small, nearly half the length of the third, fourth and fifth each shorter than third, sixth slightly shorter than fifth, the next five segments thickened, opaque and pubescent Prothorax quadrate, slightly broader than long, front margin emarginate, sides straight, narrowed towards the front, basal margin sinuate, anterior angles acute and rounded, posterior almost right angles, upper surface convex in the central area and with fine, scattered punctures, lateral areas longitudinally and very shallowly depressed, the depression containing coarse and confluent punctures, at each side, between this rough area and the extreme edge, is a narrow smooth strip which appears convex when the insect is viewed sideways. Scutellum triangular, smooth, impunctate, with apex acute. Elytra broader at the base than the prothorax, each elytron is confusedly punctate, the punctures having a tendency to arrange themselves in longitudinal rows, this partial regularity being more marked on the inner half than on the outer, so that a short scutellar row, a sutural row and one or two irregular discal rows can be recognized, the whole surface is uniformly and more or less closely covered with almost the same kind of punctures, but there may be an exception here and there; no tendency to

doubling of the rows can be recognized Underside smooth, impunctate, with scattered, short, silvery hair.

Length, 8 mm.; breadth, 5 mm SIND Karachi (R T Bell)

Type in the British Museum. Described from three examples.

19 Chrysolina stevensi, Baly.

Chrysomela stevens, Baly, Ann Mag Nat Hist (3) x, 1862, p 23

Body oblong, moderately convex, bright cupreous, head,

scutellum and legs obscure æneous, antennæ black.

Head rregularly but not closely punctate, clypeus nearly occupied by a narrowly ovate, transverse depression, the longitudinal median impression well marked, though not reaching the vertex Antennæ almost half the length of the body, first segment large and thickened, second shorter than third, fourth and fifth each also shorter than third, from the sixth to the eleventh the segments are thicker, opaque and pubescent. Prothoras a little broader than long, front margin deeply concave, sides nearly straight and parallel, slightly sinuate behind the middle, rounded and narrowed in front, anterior angles acute and rounded, posterior almost right angles, basal margin subsinuate from the middle to each side; surface slightly convex, impressed here and there with deep punctures, congregated in irregular rows, sides convex at their outer edge, longitudinally, broadly but obsoletely excavated within, their surface covered with large. irregular, deeply-impressed, confluent punctures. Soutellum semi-ovate, subacute, smooth and impunctate Elytra broader than the prothorax, subovate, surface thickly covered with numerous irregular rows of deeply impressed punctures, interspaces somewhat irregularly punctate, indistinctly wrinkled transversely on the outer part of the anterior half of the disc.

Length, 8 mm

BURMA Rangoon (Brit Mus), Mandalay, 12 v 1909 and 20 in 1918 (Pusa Coll) BENGAL. Comillah, 25 i 1906 (Pusa Coll) Assam Maugaldan District, 1-2 i 1911 (S W. Kemp) Manipur (Doherty, Brit Mus)

Type in the British Museum

20. Chrysolina bella, Jacoby

Chrysomela bella, Jac, Entomologist, xxiii, 1890, p 253, id Ann Soc Ent Belg vl, 1896, p 250 Chrysomela angelica, Balv (nec Reiche), Sec Yarkand Miss 1878, p 29

Body oblong Colcur bright metallic green generally, but varied with cupreous, the longitudinal bands on the elytra purplish, and the five or six apical antennal segments blackish; the colour varies extremely, but generally the scheme is as follows on the green background of the pronotum there is a suffusion of purple to such an extent as to delimit a green median longitudinal line,

two green marks extending from the basal margin, one on each side of the middle line, and a band along the basal margin; on the elytron the suture is deep blue-green, then there is a broad purple band bounded longitudinally on each side by green, and blue or green bands alternating with purple, these alternating bands

being of varying intensity

Head sparsely and finely punctate, clypeus bounded on the upper side by a deeply impressed, transversely arched line, which meets a finely impressed vertical median line, a large area at the vertex is convex and so are the areas round the roots of the The latter extend a little beyond the middle of the elytra, the five basal segments less harry, shining, those following more thickened, pubescent, piceous and opaque, first segment long and club-shaped, second, third, tourth and fifth each narrow at the base and dilated at the apex, the second being shorter than the third, as are also the fourth and fifth. Prothorax twice as broad as long, front margin widely emarginate, sides gradually rounded anteriorly, anterior angles tounded, posterior almost equal to, or slightly greater than, light angles, basal margin gently sinuate, upper surface uniformly, finely and rather sparsely punctate, on each side is a convex longitudinal strip forming a lateral border, delimited on the inner side by a few irregularly placed, deep and confluent punctures, along the basal margin there are more punctures, some of which are deeper triangular, with the apex broadly rounded, surface smooth and Elytra hardly wider than the base of the prothorax, mnunctate their surface with rows of fine punctures, but the rows are not regular enough nor well enough separated from one another to enable them to be counted; some of the punctures are fine while Underside punctate, lateral areas of the others are deeper. abdominal sternites sometimes rugose, epipleuron of the elytra broad at the base and considerably narrowed behind the middle, but continued right to the apex, inite margin towards the apex bearing a fine fringe of hairs, tarsal claus separated, simple, anterior coval cavities open

Length, 8 mm; breadth, 5 mm

NW HIMALAYAS Chamba; Kashmir; Taru, Peshawar, iv.

1916, 6 examples (Fletcher, Pusa Coll)

Type of Chrysomela bella in the British Museum, that of angelica Baly (nec Reiche) supposed to be in the Indian Museum, Calcutta

The above description is taken from the specimen from Chamba which was described by Jacoby as Chrysomela sella, a species which in his opinion also occurs in China See above, remarks about the genus Synerga, p. 21

21 Chrysolina coromandeliana, sp. nov

Body elongate-oval. Colour bright metallic blue-green, sometimes the green, and sometimes the blue, predominating, the suture and a fairly broad longitudinal median band on each

elytron deep purple, violet or steel-blue, the shades varying in intensity, antennæ brown beneath, their upper side sharing the general colour of the insect, the five apical segments infused with

piceous

Head smooth, shining, gently convex in the middle, sparsely and finely punctate, clypeus depressed, median longitudinal line faintly impressed. Antennæ long, more than half the length of the body, first segment large, thickened, second small, shorter than third, fourth, fifth and sixth each shorter than third, the next five segments thickened, rounded, opaque and pubescent. Prothorax broader than long, front margin emarginate, sides straight, slightly widened anteriorly, basal margin simuate, anterior angles broadly rounded, posterior more or less nearly equal to night angles, upper surface gently convex from side to side, more or less closely punctate with hier and coarser punctures, on the lateral areas the punctures are coarser and more or less confluent; the pronotum, viewed sideways, shows a longitudinal, more or less convex, smooth strip with much finer punctures, and along the extreme margin is a row of punctures Scatellum small, triangular, smooth, impunctate Elytra slightly broader than prothoux, punctate-striate, the punctures being irregularly arranged, the tendency to doubling of the lows not recognizable. the interspaces more finely punctate; owing to the presence of the interspatial punctures the seriate punctures cannot be acculately counted Underside abdominal steinites more or less closely punctate

Length, 6 mm., breadth, 3 mm

COROMANDEL Pondicherry (M Maindron) KANARA (a slightly smaller specimen)

Type in the British Museum Described from three examples

22. Chrysolma aurata, Suffrian

Chrysomela aurata, Saffr, Linn Ent v, 1851, p 102, Jac, Ann Soc Ent Belg xl, 1896, p 251.

Chrysomela separata, Baly, Journ. of Ent. 1, 1860, p. 96

Chrysomela grutu. Baly, Ann Mag Nat Hist (3) x, 1862, p 22

Body oblong, convex Colour cupreous, at the point of articulation of the appendages red-brown, antenne and legs blackish-aneous

Head. clypeus distinctly punctate, A-shaped mark deeply impressed, remaining portion of the surface of the head convex and scarcely punctate. Antennæ scarcely half the length of the body, robust, third segment longer than fourth, second almost equal to fourth. Prothon ax twice broader than long, sides slightly iounded and ampliate, narrowed in front, there are a few deep, scattered punctures, without any arrangement, on the central area, each lateral area being closely covered with deep, coarse and confluent punctures, giving it a very rugose appearance, the extreme marginal areas are longitudinally slightly convex and

without punctures. Scutchum smooth, quadrate-ovate, impunctate Elytra subovate, convex, covered with deep punctures, although there is no regular arrangement a tendency towards formation of longitudinal series may be recognized interspaces between the punctures smooth Underside shining, finely but remotely punctate

Length, 8 mm.

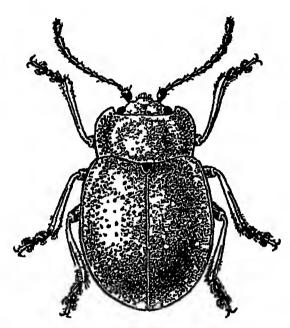


Fig 13 -- Chrysolina aurata, Suffr.

NORTHERN INDIA (type-locality of au ata separata was originally described from "India" and gratus from Rangoon). Siekim Gopaldhara (H. Stevens) Assam (W. F. Badaley), Manipur (Doherty), Nongpoh, Khasi Hills, vii 1907 (D. Nowrojee, Pusa Coll), and Shillong, 1x-x. 1918 (Fletcher, Pusa Coll). Bengal Rasulpur, in 1906 (Pusa Coll.), Pusa, Bihar, 3 v 1906 (C. S. Misra, Pusa Coll.) United Provinces Dehra Dun, 22 vii. 1921 (S. N. Chatterjee) Burma Carin Hills, xii 1888 (L. Fea)

Types of separata and grutu in the British Museum.

I have very carefully examined Baly's types of separata and grutu, and I think the two species are identical, I also believe that they are the same as Suffrian's aurata. I have before me more than sixty specimens from various localities. There is a considerable difference amongst individuals in (1) size, (2) punctuation, and (3) coloration, but I am of opinion that the divergences

tall within the limits of individual var "tion

23 Chrysolina perforata, Redienbacher.

Chrysomela perforata, Redtenb. (nec Gebl), in Hugel, Kaschmir, iv, 1848, p 557.

The following is a translation from the original German description. I cannot identity the insect from the description, and it is given in Weise's Catalogue (p 98) not in its proper alphabetical order in the genus Chrysomela, but among a few names at the end of the genus, as though its identity were uncertain—

In size it resembles a small example of Chrysomela banksn (Enrope) and like it is strongly punctate, but the lateral margins of the pronotum are not thickened, and the intennæ, legs and underside are just as metallic as the upper side, but only somewhat darker in colour. The head is shaped like that of Ch banksn. The prothorax is somewhat narrowed posteriorly, its disc sparsely, and the flat lateral margins thickly and deeply, punctate. The scutellism is elongate and triangular. The elytra are somewhat broader than the prothorax, smooth and shining, with large and deep punctures which are finer, sparser and obsolescent on the disc, while on the lateral area are two regular double rows of punctures. The underside is smooth, shining and impunctate. Kashmin Long. 4 lin [approx 8 min.].

24 Chrysolina pyrrhopyga, Stål.

Chrysomela pyrrhepyga Stål, Ofv Vet-Ak Forh xlv, 1857, p 60

Obscure steel-blue. Elytra and abdomen, with the exception of the basal part, duty red-brown. Sparsely punctate Elytra irregularly punctate, the punctures more or less arranged in rows. Length 14, breadth 8 mm "INDIA ORIENTALIS"

I have not seen the type and therefore cannot express an opinion about this species

25 Chrysolina nepalensis, Hope.

Chrysomela nepalensus, Hope, in Gray, Zool Misc 1831, p 30

Colour blackish-violaceous, with the thorax purplish and the elytra brassy violet and punctate, the punctures large and more or less arranged in rows and black Long. lin. 4½, lat 3. NEPAL

I have not seen the specimen and I cannot express an opinion. The type ought to be in the British Museum, but it cannot be traced. This species, like Ch perforata, Redt, is not given by Weise in its proper alphabetical position in the genus Chrysomela, but is placed among a list of evidently doubtful species at the end of the genus (Col. Cat., part 68, 1916, p. 98)

Genus AMBROSTOMA, Motschulsky

Ambiostoma, Motschulsky, Schrenck's Reisen Amurl 11, 1860, p. 205, Baly, Trans Ent Soc Lond 1879, p. 192, pl. 2, f 16, Weise, Arch Naturg lxiv, 1808, p. 196

GENOTYPH, Ambi ostoma quadri-impi essum, Motsch

This genus includes three species, namely, quadri-impressum, Motsch, fortune, Baly, and makesa, Hope In general build they resemble each other, although the two former are larger in size Another character common to the three species is the structure of the metasternum, which is bordered on each side only by a deep furrow, the apea being without any furrow, and truncate Baly laid considerable emphasis on this character alone, and has included the three species in one genus. But A makesa, Hope, the only one known from within our faunistic limits, differs from the other two in having the second segment of the antennesshorier than the faurth, while in quadri-impressum and fortune the second segment is equal to the fourth. Baly did not, apparently, take notice of this difference

The combination of metasternal and antennal characters might be considered sufficient to justify the placing of A makesa in a separate genus, but not having enough material, I do not propose to do this at present. On the other hand A makesa cannot be put back into the genus Chrysolina, because of the form of its metasternum, since in Chrysolina the metasternum is bordered by a channel all round, including the apex and this character is constant throughout the large genus. A makesa occurs in Nepal

and the other two species are found in China and Siberia

Range, discussed above

· ·

26. Ambrostoma mahesa, Hope.

Chi ysomela mahesa. Hope, in Gray, Zool Misc 1881, p 30 Ambi ostoma nepalense, Motsch, Schienck's Reisen Amuil 11, 1860, p 228

Colour metallic bluish-green, underside with a cupreous sheen Anterior, lateral and posterior margins of the pronotum and three longitudinal bands, one median and two lateral, bright metallic cupreous red, margins of elvira all round, suture, and on each elytron the following pattern internal to the humerus a short basal longitudinal band meeting a post-basal transverse band from which proceed two longitudinal bands, usually anastomosing (sometimes not) on the apical area, all bright metallic cupreous red, which in darker specimens becomes a steel-blue. The scutchium shares the colour of the suture

Head bload eyes situated on the extreme lateral parts, on the inner side of them are the thickened roots of the antenna, the niter-antennal space being very deeply depressed and impressed with three lines meeting at a point in the middle, one running along the middle to the vertex and the other two shiquely to the

bases of the antennæ, surface sparsely dotted with fine punctures, more crowded at the sides near the eyes, where the surface is depressed. Antennæ passing to a certain extent bayond the pronotum, the five basal segments shining brown stained with darker culour, sparsely covered with fine hans, the next six segments being more harry, first segment large, thickened and curved, second more or less globalar, third more than twice as long as second, fourth shorter than third but nearly twice as long as second, fifth and sixth almost equal to each other, each very slightly shorter than the fourth, the remaining segments more or less nearly equal and slightly thickened. Prothor ax about

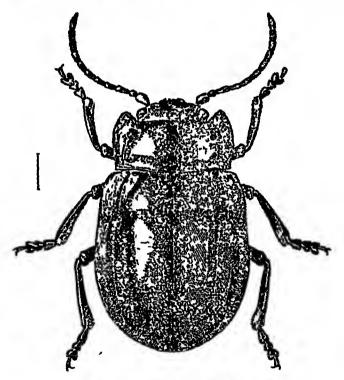


Fig 14 -Ambrostoma mahesa Hope

I mm broader than long, narrowed towards the base, front margin widely emarginate, the acute and rounded antenor angles being drawn torward to a certain extent, sides sinuate, convex in the middle, basal margin very feebly sinuate on either side, posterior angles almost right angles, upper surface smooth, convex, very finely and sparsely punctate, along the lateral bands the surface is longitudinally depressed, in the depression near the base are a few strong punctures, between this depression and the lateral margin the whole surface is convex. Scattellum as broad as long, apex rounded, surface smooth and impunctate. Elytra broader than prothorax, convex, smooth, very finely and sparsely punctate,

along the post-basal transverse band the surface is depressed, the depression containing strong punctures. *Underside* smooth, generally impunctate, anterior coxal cavities open, prosternum prominent, convex and triangularly cut at the posterior end; clawsegment of tarsi long, claws simple.

Length, 7-81 mm

NEPAL

Tupe and five other specimens in the British Museum.

Genus PARALINA, Baly.

Paralma, Baly, Trans Ent. Soc Lond (n s.) v, 1859, p 155, Chapus, Gen Col v, 1874, pp 868. 377

GENOTYPE, Chrysomela undica, Hope

Body elongate Head antennæ slender, passing much beyond the base of the pronotum, third segment three times longer than

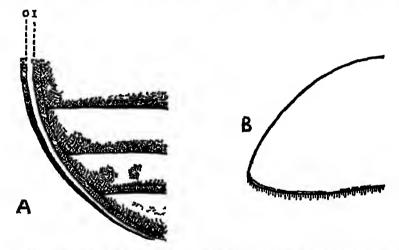


Fig 15—Paralina indica, Hope A, one-half of ventral view of abdomen and epipleuron, o, outer, i, inner margin of epipleuron B, side view of apex of elytion showing the frings of cilia arising from the inner margin of the epipleuron and standing in a vertical plane.

the second, clypeus almost as long as broad, while in Eumela it is almost a transverse streak, eyes not so narrow as in Eumela. The apical segment of maxillary palpi truncate, and almost equal to the preceding segment Protherax much narrower at the base than the elytra, its surface not very convex Elytra surface smooth, with four pairs of longitudinal rows of punctures; inner edge of epipleuron bearing a row of ciha-like bristles Underside anterior end of metasternum bluutly pointed and passing much beyond the intercoxal space between the middle legs, anterior coxal cavities open

Range India
There are only two species in the genus, both from India.

Key to the Species

Abdominal sternites, or at least the greater part of them, generally metallic green

Abdominal sternites, except the first, reddishbrown

P fai

P indica, Hope, p 47

P fullaciosa, Stål, p 48

27 Paralma indica, Hope

Chrysomela indica. Hope, in Gray, Zool Misc 1831, p 29
Paralina indica, Bely, Trans Ent Soc Lond. (n s) v, 1859, p 155;
Duvivier, Ann Soc Ent Belg xxxv, 1891, C r. p 43
Chrysomela cashmirensis, Redtenbacher, in Hugel, Kaschmir, iv, 1848, p 558
Lina elata, St&l, Ofv Vet-Ak. Forh 1857, p 60

Colour metallic green with the elytra dark red-brown; the green may be considerably mixed with, or entirely replaced by, blue.

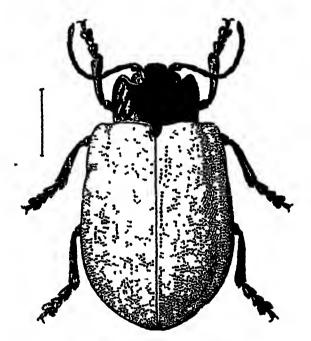


Fig. 16 -Paralina indica, Hope

Head depressed in the middle, the arched impressed line forming the upper boundary of the clypeus, and the median longitudinal line on the forehead, not very deep; surface punctate, with a few bristles on the clypeus and near the eyes, the latter not so narrow as in *Eumela*. Antennæ with first segment thickened, second very small, third elongate, three times as long as second, fourth shorter than third and equal in length to each of the following segments, all the segments slightly covered with hair.

more so on the five apical ones Prothorar quadrate, anterior edge widely emarginate, basal margin undulate, sides straight. rounded at the anterior angles, posterior angles almost light angles. central area of upper surface moderately convex and impunctate. while each side has a longitudinal depressed area which forms a border along the lateral margin and contains a few coarse punctures, these latter may be more in some examples and in others only four or five. Scutellum trungular with apex rounded. surface impunctate, colour the same as the prothorax broader at the base thun the prothorax, elongate, smooth, each elvtron has the following ious of punctures (1) one longish scutellar row, (2) one along the sutural margin, (3) four pairs of discal rows, each pair enclosing a smooth space, (4) one row along the extreme outer margin, areas between the paired rows covered with round black spots which simulate punctures Underside in some specimens more shining than the upper side, generally finely punctate, the abdominal segments more strongly so, and sparsely covered with very fine hairs

In a specimen from W. China the last three abdominal segments are entirely ied-brown. In the type-specimen, which is from Nepal, the metallic colour is more blue than green, the abdominal segments are more or less browner at the edges, the last one entirely, and the two preceding ones except in the middle area,

brown

Length, 135-145 mm, greatest breadth, 8-9 min

NEFAL BRUTAN (Atkinson) SIKKIM Gopaldhara, 1916 (H. Stevens) DARJDELING DISTRICT Sureil, Mungphu, 5000 ft, 1v-v 1917 (S. W. Kemp), Pashok, 5000 ft, 26 v-14 vi. 1916 (F. H. Gravely) UNITED PROVINCES W. Almora Division, Kumaon, vii. 1919 (H. G. Champion), Naimi Tal, ix 1917 (H. G. Champion) Burma Haka, Chin Hills, 1 viii 1910 (F. E. Venning), Ruby Mines (Doherty), Bhamo Hills, 4000 ft, v. 1916 (F. M. Mackwood) Assam Naga Hills (Doherty), (W. F. Badyley); Manipur (Doherty) Also occurring in China Chin-Fu-San (West China), 1908-10 (W. A. Mow)

Tupe in the British Museum

28 Paralma fallaciosa, Stal

Paralma fallaciosa, Stal, Nova Acta Upsal (3) IV, 1862, p. 5, nota-

Colour green with purplish sheen; abdominal segments, except the first, reddish-brown, their central areas tending to be darken;

elytra dark brown, more shining than in P indica

Head surface depressed on each side of the medish longitudinal line, upper boundary of the clypeus well impressed, and the whole surface sparsely covered with finer and coarser punctures. Antenus slender, elongate, passing well beyond the pronotium. first segment thick, club-shaped, second very small, third about three times as long as second, fourth shorter than third but almost equal in length to fifth, from the sixth to the last the

segments become slightly stouter and much more harry Prother av broader than long, sides almost straight, anterior angles rounded, posterior almost right angles, front margin widely emarginate; upper surface moderately convex, each side having a longitudinal depression, the middle and the basal areas bearing a few scattered punctures, while the lateral depressions are heavily punctate. Scutellum sharing the same colour as the pronotum, ovate, with surface impunctate Elytra broader at base than prothorax, widening slightly posteriorly, surface shining, convex, each elytron has the tollowing airangement of punctures: (1) a long scutellar row which at the commencement forms a pair with the sutural row, (2) the single sutural row which runs throughout the length of the elytron, approaching the sutural ridge very closely on the apical aren, (3) four pairs of longitudinal discal rows at equal intervals from each other, the pairs approximating towards each other on the apical surface, and finally (4) a single row of punctures along the extreme outer maigin, on the surface between the pairs of rows of punctules there are confused, lound, black spots simulating punctures, in some specimens less conspicuous Underside sparsely and finely punctate, each puncture bearing a brownish bair

This species differs from P indica in the shape of the anter.or end of the metasternum, which in P fallocosa is blunt, shorter,

and channelled on each side

Length, 11 mm, greatest breadth, 6 mm (type-specimen); a specimen in the British Museum measures 13 mm. by 8 mm

Type in the Stockholm Museum

N. India (locality of the type-specimen). Sikkim: Gopaldhara, Rungbong Valley (H. Stevens) Darjeeling: Pashok, 3500 ft (L. C. Haitless, Ind. Mus. Coll.), Lebong, 8000 ft, vi 1909 (Lefroy, Pusa Coll.) Assam Garo Hills, above Tura, 3500—3900 ft, 15 vii—30 viii 1917 (S. Kemp); Khasi Hills, Nongpoh, vii 1907 (D. Nowrojee, Pusa Coll.)

There is a specimen in the British Museum bearing a label of identification in Baly's handwriting. Stal in describing this species consulted Balv, whose suggestion that it possessed a metasternum of a different structure led Stal to publish the species. Therefore the specimen in the British Museum, examined by Baly, although not the type, has almost the value of a type.

Genus EUMELA, Baly.

Eumela, Baly, Trans Ent Soc Lond 1875, p. 23, Weise, Deutsche Ent Zeitschr 1902, p 109

GENOTYPE, Chi ysomela cyanicollis, Hope (India).

Body oblong-ovate, convex. Head sloping in front; antennæ hardly reaching the base of the pronotum, fairly stout, the contrast in thickness between the six basal segments and the rest of the segments is not so marked as in Sphærolma, third segment YOL, II.

about twice as long as second, the four apicul segments laterally compressed; eyes narrow and elongate; apical segment of maxillary pain truncate and much smaller than the preceding. Prothorax broader than long, front margin widely emarginate, sides straight, on the upper surface there are no thickened convex areas along the lateral margins Elytra broader than prothorax, but hardly so at the base, generally convex. Underside the anterior end of the metasternal process does not pass beyond the intercoxal space of the middle legs, legs robust, anterior coxal cavities open, inner edge of epipleuron of the elytra hus, at least from the middle, a row of fine culia-like bristles

Range India, China, Tonkin.

Key to the Species.

1 Elytra smoothly punctate, not wrinkly or costate
Elytra not smoothly punctate, either with wrinkly punctures or costate

 Elytra light yellow-brown to dark redbrown, without any metallic shimmer Elytra generally red-brown with purple or greenish shimmer

S Inner half of elytral surface impressed with elongate wrinkle-like punctures, outer and apical areas with much finer punctures

Elytral surface with deeper impressed

Elytral surface with deeper impressed punctures giving it a rough appearance, and with two more or less raised interstices

S E cyanicollis, Rope, p 50

E transversicollis, sp n., [p 52.

E assamensis, Weise, p 52

E balys, Jac , p. 53

29. Eumela cyanicollis Hope

Chrysomela cyanicollis, Hope, in Gray, Zool Misc 1831, p 29 Enmela cyanicollis, Duviver, Ann Soc Ent. Belg xxxv, 1891, C r. p 48, Weise, Deutsche Ent Zeitschr 1902, p. 110

Body oblong-ovate, convex. Colour generally metallic blue, elytra and underside of abdominal segments (except the first) light yellowish-brown to dark brownish-red; in one case the

metallic blue colour is replaced by green

Head large, broad, and (viewed from the front) vertical in position, elypeus bounded on the upper side by a deeply impressed curved line, from the middle of which runs a finely impressed longitudinal median line, while there may be a shallow depression on the area just at the top of the elypeus; surface generally finely and more or less sparsely punctate, round the eyes the punctures become thicker, as well as on the elypeus; eyes very narrow, elongate and obliquely placed First segment of antennæ very stout and broad, second very small and rounded, third more than twice as long as second and longer than fourth, fourth very slightly longer than fifth, fifth and sixth almost equal to each

EUMELA. 51

other in length, the four apical segments slightly stouter and more or less flattened laterally, the six basal segments sparsely, the rest thickly, covered with fine golden-brown bristles, apical segments of maxillary and labial palpi proportionately short and blunt. Protherax much broader than long, very slightly narrowed posteriorly, sides straight, anterior angles rounded, posterior angles obtuse, front border widely emarginate, base almost straight; upper surface widely convex, smooth, and more or less sparsely covered with coarser and hner punctures Scutellum broader than long, anterior margin straight, posterior rounded, and with a well marked border, surface spaisely covered with finer and coarser punctures Elytia almost as broad at base as prothorax, slightly

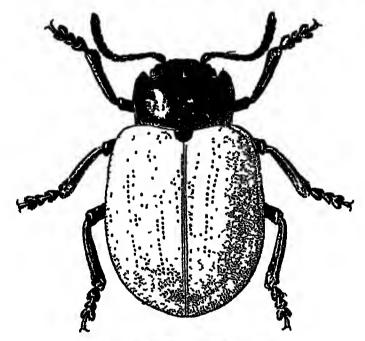


Fig 17 — Eumela oyanıcollis, Hope

broader behind; convex, upper surface confusedly punctate, but there is still a tendency towards formation of longitudinal rows, on each elytron there are three longitudinal impunctate stripes, each bounded by rows of punctures, likewise there is a row along the sutural border, but a scutellar row cannot be distinguished, though the scutellar area bears some punctures. Underside punctate, abdominal segments covered with brown bristles, each arising from a puncture, anterior coval cavities not closed, anterior process of the metasterium not reaching beyond the middle coxal cavities

Length, 14-15 mm., greatest breadth, 9-10 mm

Sikkim Gopaldhaia (Stevens), Darjeeling, v. 1912 (Indian Museum) Assim Saikhoa, 26 v. 1920, 1 specimen (Fletcher,

Pusa Coll), Patkar Mts (Doherty), Manipur (Doherty) Burna Karen Mts., 900-1100 m, v-xn 1888 (L Fea) Peradenya, Matale, 1919 (N. K. Jardine) Type in the Hope Museum, Oxford

30. Eumela transversicollis, sp. nov.

Head, motherax, antenna, underside, and legs bright metallic

green, elytra red-brown with purple or greenish shimmer

Head almost impunctate of with a few very fine punctures, viewed from the front almost vertical, with a depression in the middle, clypeus bounded on the upper side by a strongly impressed curved transverse line, the vertical line is not visible. The structure and the proportions of the antennal segments are as described in the preceding species Prothoran broader than long. much more so than in E cyanicollis, surface convex, almost impunctate except for a few fine punctures and some coarser ones at the basal and lateral borders, anterior border widely emarginate, sides undulated, anterior angles rounded, posterior obtuse Scutellum with base straight, posterior end rounded but more nearly triangular than in E cyanicollis, surface impunctate Elytia the sculpture of the surface is exactly as in the type species of the genus Under side generally punctate, the abdominal segments more closely so and without bristles In E cyanicollis the antennal and abdominal segments bear bristles, in this species they are without them.

Length, 10-12 mm, greatest breudth, 7-9 mm

NILGIRI HILLS (A K. Weld-Downing), (H L Andrewes), Naduvatum, 7000 ft, v 19(4 (W Rawson, Pusa Coll)

Type in the British Museum

Described from two examples, one bearing Jacoby's manuscript name, which I have adopted here, and the other labelled coromandeliana, Dej

31 Eumela assamensis, Weise

Lumela assamensis, Weise, Deutsche Ent Zeitschr 1902, p 110

Body metallic green with light golden shimmer The transverse impression boildering the clypeus and the median longitudinal impression on the forehead prominently sharp Pronotum moderately strongly punctate with a groove on each side Eligina dink red-brown, the muer half impressed with strong and slightly clongated wrinkle-like punctures, the outer and the spical areas with much finer punctures The first abdominal segment green in the middle

Length, 13-14 5 mm

Type probably in the Berlin Entoniological Museum I have not seen this insect but, judging from the description, the sculpturing of the elytra is characteristic

32. Eumela balvi, Jacoby.

Chi ysomela balyi, Jac., Entomologist, axvi, 1893, Suppl. p 106

Ovate, strongly convex, greenish æneous, the ameal segments of the autennæ black, elytra reddish-tulvous with a purplish sheen.

Head with a very few fine punctures near the eyes, labrum and mandibles black, median vertical line absent Antennæ very short, not extending beyond the base of the thonax, basal segment metallic green, the five apical segments strongly dilated, broader than long, and black Prothorax nearly twice as broad as long, sides and anterior margin at the middle straight, anterior angles rounded and but slightly produced, surface brilliant metallic greenish, with a few deep punctures and a short transverse fovea at each side, sides without any longitudinal depression; the degree of punctuation of the surface values Scutellum metallic green, triangular with apex broadly lounded surface smooth reddish-brewn, gradually laised towards the middle, from there to the apex inther strongly deflexed, with a short transverse depression below the shoulders, which are convex and impunctate; surface strongly punctured, the punctures deeply unpressed (giving a rough appearance), arranged in integrilar longitudinal rous near the suture and at the sides, more irregularly on the disc, and more finely at the apex than anteriorly; the interstices smooth, two of them elevated, this being more marked in some specimens than in others Uniterside and legs metallic green, prosternum longitudinally convex, metasternum very slightly tuberculate in front, abdominal segments finely punctured

I have before me eleven specimens, all from South India; they vary in size, in the punctuation of the pronotum and in the degree of elevation of the interstices, in the type-specimen this

latter is not very pronounced

Length, 11-12 mm

SOUTH INDIA Shembaganur, Palni Hills, 6000 ft (Pusa Coll.), Kodaikanal, 1 specimen (T V Campbell, Coll Champion); Kodaikanal, 6700-7000 ft, v. to ix 1922 (Mrs Kemp) Originally described from Madias.

Type in British Museum

I do not think that this species should be included in Chrysomela (= Chrysolina), as was done by Jacoby.

Genus SPHÆROLINA, Baly.

Spherolina, Baly, Trans Ent Soc Lond. 1871, p 400, Chapuis, Gen Col x, 1874, pp 368, 378

GENOTYPE Lina rajah, Guérin.

Bony rounded-ovate, semi-globular, more convex than either Paralina or Eumela Head as broad as the emargination of the front border of the pronotum; eves narrow and obliquely placed, but not so narrow as in Eumela Antennæ short, hardly reaching the base of the pronotum, five apical segments much more dilated

than the basal segments and compressed, in presenting this strong contrast between the thickness of the six basal and the five apical segments, this genus differs from Paralina and Eumela. The apical segment of the maxillary palpi is truncate, and not much smaller than the preceding segment Prothorax much broader than long Elytra broader at the base than the prothorax, but becoming much wider behind Underside the anterior end of the metasternal process is not pointed and hardly goes beyond the intercoxal space between the middle legs. The anterior coxal cavities are open behind. The inner edge of the epipleuron of the elytra has a row of fine cilia-like bristles.

Baly distinguished this genus from Chi ysomela (= Chi ysolina) by the short antenue and the difference in the form of the

prothorax Two species have been described

Range India.

Key to the Species

Pronotum blue-black to green, elytra dark brown generally with a metallic sheen

S rajah, Guér, p 54

Pronotum bright metallic blue, elytra dark brown without a metallic sheen

S templetoni, Baly, p 55

33 Sphærolina rajah, Guérin

Chrysomela rajuh, Guér, Rev. Zool 1840, p 41, 1d, Voy Deless. 1, Zool 1843, p 64

Body strongly convex. The colour of the elytra is generally shining rich brown, the rest of the body being deep blue-black, in some cases the elytra are much darker brown, the margins and suture retaining the lighter brown colour, and sometimes they have a greenish-purplish sheen, the rest of the body their tending

to green rather than blue-black

Head impunctate except for a few scattered punctures, particularly near the eyes, and with a few scattered hairs, clypeus well marked off, the central median longitudinal line, which meets the upper boundary of the clypens, being faint. First segment of antennæ large, club-shaped, second small, third about twice as long as second, fourth almost equal to third, ofth slightly shorter than tourth, sixth shorter than fifth, the next five segments forming a thick club, more hairy and less shining than the basal segments. Prothorar twice as broad as long, front margin widely emarginate sides very slightly widened anteriorly, anterior angles rounded, posterior almost right angles, upper surface gently convex, with hardly any punctures in the middle area (in some specimens more than in others), lateral areas and basal marginal area more or less covered with coarser and finer punctures, in some specimens the upper surface is impunctate but for a few scattered punctures Scutellum triangular with apex rounded, surface smooth, impunctate, the colour always that of the pronotum. Elypa a little broader at the base than the base of

the pronotum, very convex, surface confusedly covered with punctures which show some tendency towards an arrangement in longitudinal rows, on each elytron are three longitudinal smooth stripes (and sometimes a trace of a fourth) bounded on either side

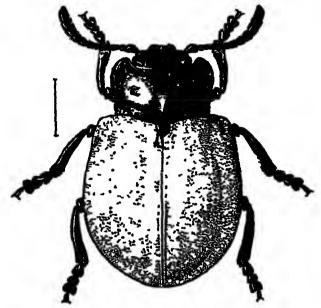


Fig 18 - Sphærolina rajah, Guérin

by a row of punctures. Under side closely punctate, each puncture bearing a fine hair; structure of the metasternum as described under the genus.

Length, 11-13 mm, greatest breadth, 9-10.5 mm NILGIRI HILLS (G. F. Hampson). Originally described from the plateau of the Nilgiris

The location of the type is unknown to me

34 Sphærolina templetoni. Balv.

Lana templetom, Baly, Ann Mag Nat Hist (3) 1v, 1859, p 60 Sphærelina templetoni, Fairmaire, Ann Soc. Ent France, (6) vi, 1886, p 356, Weise, Deutsche Ent Zeitschr 1902, p 110 (nota)

Head, prothorax, autemme (except the apical club, which is piceous), underside and legs, bright metallic blue; elytra yellow-

brown to dark brown, without metallic sheen.

Head finely and sparsely punctate, surface above the clypens uneven; clypens bounded on the upper side by a faintly impressed line, the vertical longitudinal line is also faint. Antenna. structure and relative lengths of segments as stated in the generic Prothorax broader than long, sides slightly widened anteriorly, anterior angles widely rounded, posterior almost right angles, front margin widely emarginate; surface evenly convex,

hardly punctate except for a few punctures in the middle area and more on the lateral area, at the pusterior angles, and along the basal margin. Scutellum triangular with apex rounded, surface smooth and impunctate; it always shares the colour of the Elytra a little broader at the base than the prothorax, widened posteriorly, convex, surface confusedly punctate, on each elytion there are four pairs of longitudinal rows of punctures, each pair of rows enclosing a smooth space. In the type-specimen, which is of a lighter blown, this arrangement is not very prominent although clearly visible At the end of his description Baly remarks "my specimen has the elytin stained with numerous small sufo-piceous points urr-gularly arranged in longitudinal strie: I think these are only due to immersion of the insect in spirit" This observation is not correct, probably because Baly saw the meet under a low-power lens, these spots are true impressed punctures, each of which is surrounded by a circular Underside closely punctate, hairy, the last two visible segments of the abdomen in the type-specimen brownish

Length, 11 mm; greatest breadth, 9 mm

CEYLON (type-locality)

Type in the British Museum.

Gerus AGASTA, Hope

Agasta, Hope, Col Man 111, 1840, p 177, Baly, Trans Ent Soc Lond (3) iv, 2, 1867, p 298, Chapus, Gen Col v, 1874, pp 367, 405

GENOTYPE, Agasta formosu, Hope

Body oblong-ovate, moderately convex, the prothorax much narrower than the base of the elytra. Antennæ passing slightly beyond the pronotum, slender Elytra punctate-striate at the base, a short scutellar row of punctures is also present, and the rows of punctures along the suture are entire throughout, but on the rest of the surface the punctures are confused. The bilobed segment of the tarm is not entire, that is to say, the lobes are separate and not fused, in most Chrisomelinæ they are fused, the anterior border being emarginate and the upper surface hollowed for the reception of the claw segment, which arises from the base of the bilobed segment; see footnote on p.4

Range. This genus contains only one species, which Hope first described from China, but subsequently it has been taken in Java.

Suam and India

35 Agasta formosa, Hope

Agasta formosa, Hope, Col Man 111, 1840, p 177, pl 2, fig 3, Baly, Irans Ent Soc Lond (3) 1v, 2, 1867, p 298, Chapuis, Gen Col, Atlas, pl 123, fig 4. Baly, Cist Ent 11, 1879, p 436, Duvivier, Ann Soc Ent Belg xxxv, 1891, C r p 44

The ground-colour varies from pale yellow-brown to dark

AGASTA. 57

brown; the following blue-black spots and patches of different sizes and shapes are observable. (1) a spot on the depression in the centre of the upper surface of the head, (2) two large semilurar patches opposing each other and three other small spots—one central and two lateral—on the pronotum, (3) as a rule the entire upper surface of the scutellium but sometimes with the exception of a tiny area, (4) eight large patches on each elytron; described in detail below and including a small one just posterior to the humeral angle, this spot being partly on the upper surface and partly on the epipleuron, (5) on the underside, the lateral pieces of the measisterium, the whole of the metasterium and a stripe on each abdominal sternite, this stripe is often broken into three portions, one median and two lateral, and in some specimens



Fig. 19 - Agasta formosa, Hope

this gives rise to three longitudinal series of patches. The whole

body is moderately shiny and tree from hans.

Head with a depression in the centre, in some cases this is more pronounced than in others, and sometimes it takes a triangular shape, the clypeus is narrow, triangular and well marked off by strongly impressed lines, the latter meeting a fine vertical median impression, the surface is scarcely punctate, in some specimens more so than in others. First segment of antenne thickened and rounded, second elongate, shorter than third but almost equal in length to the fourth or fifth, the third is slender and is the longest segment, from the sixth to the last the segments are thickened and darkened in colour towards the end Prothorax much narrower than elytia, front margin widely emarginate sides almost straight, slightly narrowed towards the front, anterior

angles rounded, postenor almost right angles, on the upper surface the central area inclosed between the semilunar patches is almost impunctate or very finely punctate, the lateral areas are more coarsely and thickly punctate Scutellum triangular, smooth and impunctate Elytra at the base about twice as broad as the width of the prothorax, disposition of the blue-black patches on each elytion as follows on the basal area two patches, the first covering the humerus and a little area round it and the second (the largest patch on the elytion) placed near the suture obliquely behind the first, on the middle area, lying in a similar oblique line, there are three patches almost of equal size, finally, on the apicol area there are two more, situated in a third oblique line, one on the lateral margin and the other near the suture, the former overflowing the margin and staining a little portion of the epipleuron, below the humerus there is a patch which stains partly the epipleuron and partly the alytral margin, and sometimes this patch is confluent with adjoining patch of the second oblique line The sculpturing is as tollows on each elytron (1) a short scutellar row of punctures, (2) one row along the suture, (3) another row parallel to the sutural row, (4) along the lateral margin two rows running parallel the whole length, the interstice between them being shightly convexly raised, rest of the surface confusedly punctate, except on the basal area where an arrangement in rows is observable Under side more shining than the upper, generally impunctate; the disposition of the blue-black spots and patches has been touched on in the short colonr diagnosis given above

Length, 10-111 mm.

EASTERN HIMALAVAS Darjeeling District, Sitong near Mungphu, 3800-4000 ft, 2-5 vii 1918 (S. W Kemp, Ind Mus Coll), Singla, 1500 ft, vii 1912 (Ind Mus), Pashok, 4500 ft, 26 v-14 vi 1916 (F. H. Gravely, Ind Mus) Burma Ruby Mines and Karen Hills (Doherty, Brit Mus) Assam Sadiya (Doherty, Brit Mus), Khasi Hills, Nongpoh (Brit Mus), same locality, ix 1906 and vii 1907, 10 specimens (Pusa Coll), Sylhet (Bowning, Brit Mus), above Tura, Garo Hills, 3500-3900 ft, vii-ix 1917 (1/r & Mrs Kemp) Java (Bowning, Brit Mus). Siam (Brit Mus)

The location of the type is unknown to me

Variation: in some specimens the underside is without any markings. In the two specimens from Assam in the collection of the British Museum most of the spots and patches on the upperside have disappeared except the humeral, subhumeral and one apical, on the other hand the patch on the head is much enlarged and the underside also is almost suffused with blue-black. Sometimes the upper surface of the head is entirely blue-black, and the patches on the pronounce have all fused, covering a large area.

Genus PHAEDON, Latreille

Phaedon, Latr, in Cuvier, Règne Amm ed 2, v, 1829, p 151, Redt, Gatt deutsch Kaferfauna, 1845, p 116; Chapuis, Gen Col 4, 1874, pp 867, 371; Weise, Ins Deutschl vi, 1884, p 538, Fowler, Col Brit Isl iv, 1890, p 314

GENOTYPE, Chrysomela armorucia, L. (Europe, N Asia, N. America)

Body short, oval and convex Prothorax narrowed anteriorly. Elytra with distinct rows of punctures at regular intervals. Thus not produced into a tooth at the apex. The third bilobed segment

of the tarsus divided, not entire

This genus contains thirty-two species according to Weise, Col Cat. part 68, p. 118 (Berlin, 1916), liaving a wide range in North and South America, and also occurring in Europe. Jayan, and Asia to a limited extent — From within our faunistic limits only one species has been reported

Range, discussed above.

36. Phaedon assamensis, Jacoby.

Phaedon assamensus Jac, Mem Soc Ent Belg vii, 1900, p 120
Body oblong, nearly parallel-sided, nurrowed anteriorly
Winged Colour dark blue or greenish

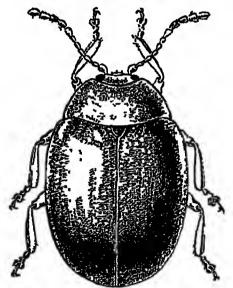


Fig 20 -Phaedon assamensis, Jac

Head rather closely punctate; the clypeus delimited by a triangular impression, its surface being punctate in the same way as the rest of the head. Antennæ black, the six basal segments stained with piceous at the apex; first segment large, thickened and club-shaped, second small, third almost twice as long as

second, fourth shorter than third, fifth and sixth each almost equal in length to fourth, the last five segments forming a dilated club, opaque and covered with hair Protho av almost twice as broad as long, narrowed anteriorly, sides straight, anterior angles rounded, posterior almost right angles, upper surface rather closely covered with punctures, lateral maigins abruptly bent down, more finely punctate, there is no ridge which, as Jacoby states, can be "seen in a certain light", that is only an optical illusion. Scutellum ovate, smooth, impunctate Elytra without distinct shoulders, almost as broad as the thorax at the base, on each elytron there are eleven rows of punctures, including a long scutellar row which terminates at about the middle of the elytron, and one along the extreme margin lying in an impressed line: it is difficult to see this last low unless it is looked at when the insect lies on its back, all the rows converge on the apical surface, interspaces between the rows smooth and Underside epipleuron closely punctate, continuing to the apex though narrowing, the whole surface is closely punctate

Length, 4 mm.

Assam (Brit Mus.) United Provinces. W. Almora, Kumaon,

one specimen (H G'Champion)

Type in the British Museum The Kumaon example is slightly smaller than the Assam specimens

Genus PLAGIODERA, Redtenbucher.

Plaquodera, Redt, Gatt dentsch Kaferf 1845, p. 116, Chevr, Dict. Univ x, 1847, p 233 Chapuis, Gen Col x, 1874, pp 369, 374, Weise, Arch Naturg lxiv, 1898, p 211

GLEOTYPH, Chrysonela versicolora, Laicharting [armoraciæ, Redt nec L]

Conver beetles, colour brown, blue or green, always with a Head generally broad, its width being metallic shimmer suffici it to allow it to fit into the emaigination of the front edge of the pronotum, the upper surface is more or less punctate and with a A-shaped impression which varies in different species The antenne are generally short, and there is always a difference in structure and colour between the five or six basal segments and the rest, the relative lengths of the basal segments vary thorax always much broader than long, the sides slightly oblique, the front margin widely emarginate, the basil margin varying in its curvature, anterior and posterior corners either rounded or angulate; upper surface always gently convex from side to side and Scutellum always triangular in vai ving degree at base almost as broad as or slightly broader than, prothorax; upper surface convex (at the humerus there is always a convex elevation of varying degree of prominence) and punctate throughout, the runctures, although lacking in any definite arrangement, may in some cases show a linear disposition along the suture and on the lateral margin. The colour is generally uniform, in some cases there is a border of light colour along the margins and the

suture, the marginal band is often slightly convex and delineated on the inner side by a low of punctures. The underside is very often smooth and shining and different in colour from the upper side, but sometimes the two sides may be concolorous. Anterior coxal cavities open. Epipleulon of the elytia bload, more or less horizontal, broader at the base and narrowing towards the apex. The claw-segment of the tarsus projects much beyond the bilobed segment, the claws being simple, in the bilobed segment the lobes are separate, not fused (see p. 4)

Range Throughout the world, but more species have been recorded from North, Central and South America (especially the

two latter regions) than from anywhere else

Key to the Species

l Each elytron with a broad, bifurcating, usually metallic green, band and a sutural stripe of the same colour P duisa, Jac, p 66. Elytia with no such band or sutural stripe 2 Body oblong or oblong-ovate . 3 4 Body rounded and more convex 8. Colour entirely brown, the elytra having a metallic greenish shimmer P mai grapenars, Jac. Colour of elytra greenish-bionze, rest of [p 63 the body dark brown or its paler shades P miniaticollis, Hope, 4 Disc of elytion with alternating metallic bands of green and purple P micantipennis, Stal, Disc of elytion with no such alternating bands 5 Ground-colour reddish-brown, disc of elytion with bronzy reflections P sufescens, Gyll, p 64 Ground-colour blue or green, underside P versicolora, Laich, blue-black P t. ansversa (OI) is not included in the key for reasons explained on p 67

37 Plagiodera versicolora, Laucharting.

Chi ysomela versicoloi a, Laichart, Verz Tirol Ins 1, 1781, p 145 Plagnodei a versicoloi a, Baly, Cist Ent 11, Sept 1878, p 375

Body ovate. Colour of upper side metallic greenish-blue, underside blue-black; the greenish-blue colour varies considerably in shade, in some examples it may have a distinct violateous tange. The five basal segments of the antennæ yellow-brown, the rest blackish.

Head broad with vertex slightly depressed and surface smooth and finely punctate, eyes prominent. Antennæ passing a little distance beyond the base of the pronofum; first segment

^{*} For other references to bibliography see Weise, 'Colsopter or um Catalogus,' part 68, Berlin 1916, pp 136, 137 This species has a wide distribution in Europe, North Africa and Asia, and hence have originated a number of synonyms and a large amount of literature

large and thickened, second shorter but thicker than third. the latter slightly longer or almost equal to the fourth, fifth shorter than fourth, sixth shorter than fifth, from the seventh to the last the segments are thickened, and more hany P. othorax much broader than long, broad at base and a little narrowed anteriorly, anterior and posterior margins widely arched, sides gently convex, anterior and posterior angles rounded, upper surface gently convex from side to side, finely and more or less closely punctate Scutellum triangular with apex acute and surface smooth and impunctate Elytic broader at base than the prothorax, humeral angles widely connded, humerus prominent and convex, posterior to it the surface is depressed, the whole surface finely and more or less closely punctate, the punctures tending to form longitudinal rows, along the margin is a longitudinal convex stripe containing fewer punctures abdominal sternites punctate, transversely strigose in the middle. epipleura of the elytra broader and deeply concave at the base. narrowing towards the apex, the bilobed segment of the tarsus is longitudinally split in the middle, the claw-segment extends considerably beyond the bilobed segment, the claws are simple

Length, 4 mm
Punjab Jhelum Valley (Dr F Stoliczka, Forsyth's Expedition to Kashgar in 1873-74) North-West Frontier Province Abbottabad, 10 vi 1916, 8 specimens, on willow leaves (Fletche, Pusa Coll), Parachinar, Kurram Valley (F W Champion) United Provinces W Almora, 5 viii 1916 (H. G. Champion), West Bhatkot, Kumaon, 4000 ft, v. 1920, on Salix (H G Champion), the specimens collected by F W and H G. Champion number 18 in all

Described originally from Europe, also recorded from North Africa, Siberia and Japan

38 Plagiodera marginipennis, Jacoby.

Plaguodera marginipennis, Jac, Ann Mus Civ. Genova, xxvii, 1889, p 188, Weise, Arch Naturg Ixiv, 1898, p 212

Body oblong Colour entirely brown with the eyes black, the

elytra may have a metallic greenish shimmer

Head broad; eyes convex; upper surface punctate with a depression in the middle, but without any impressed median vertical line, clypeus well marked off on its upper side by an impressed arched line. Antennæ short, passing a little beyond the base of the pronotum, first segment thickened, club-shaped, second small, nearly half the length of the third and also shorter than the fourth, fifth a little thicker than fourth and almost equal to it in length, from the sixth to eleventh the segments are thickened, pubescent, and piceous in colour, the five basal segments shining, smooth, and with a few scattered stiff hairs. Prothorar almost twice as bload as long, front margin widely emarginate to fit the breadth of the head, sides gently convex; anterior angles rounded, posterior almost right angles, basal margin gently

bisinuate; upper surface closely punctate Scutellum triangular with apex rounded and surface smooth and impunctate Elytra broader than prothoiax; the humerus strongly raised into a convex knob, each elytron has a raised, slightly convex border along the outer margin, the border being as broad at the base as at the apex, bounded on the inner side by a row of punctures, and having a longitudinal row along the middle of its surface; each elytron is covered with punctures which vary in size and depth, they are thinner near the sutural surface than elsewhere, one or two irregular rows along the suture can be distinguished, otherwise they are confused Underside smooth, shining and almost impunctate.

Length, 91 mm.

Tenasserim. Plapoo, iv. 1887. Burma: Karen Hills, Cheba, xii 1888 (L. Fea)

Type in the Genoa Museum

The original description was drawn up by Jacoby from an unique example (which, Dr. Gestio informs me, is in the Genoa Museum), and the locality was stated to be Plapoo, Tenasserim, April 1887; Tenasserim is also the locality cited by Weise, Col Cat., part 68, p. 135. But on a specimen marked "type" and bearing a label of identification in Jacoby's handwriting, in the British Museum collection, the locality given is "Carin Cheba, xii 1888 (L Fea)"; this specimen is not really the type, nor even a cotype or paratype, as it was not used by Jacoby in making his original description.

39. Plagiodera miniaticollis, Hope.

Chrysomela miniaticollis, Hope, in Gray, Zool. Misc 1831, p. 30

Body oblong-ovate, convex, narrowed antenorly. Elytra greenish-bronze, the rest of the body dark, or sometimes paler, brown

Head quadrate, upper surface slightly depressed in the middle. covered with coarser and finer punctures and with a A in the middle. Antennæ robust, just passing beyond the base of the pronotum, first segment club-shaped, second shorter than third and almost equal in length to fourth, these four segments shining brown and smooth except for a few stiff hairs, fifth stouter and more bristly, the last six segments form a thickened club, more hair, and piceous or black in colour Prothorax almost twice as broad as long, anterior margin narrower than base, widely emarginate to fit the width of the head, the edge of the emargination thinner in the middle and thickened at the sides; anterior angles rounded, posterior almost right angles, sides very gently convex and slightly oblique, basal margin rounded in the middle and from there almost straight to the posterior lateral angles; surface gently convex, sloping from the base to the front, smooth, and thickly covered with punctures. Soutellum triangular with apex rounded and surface impunctate Elytra broader than the

protholax, smooth and shining, humerus raised into a convex knob, each elytron is closely covered with punctures of varying sizes and depths, these punctures having a tendency to form irregular longitudinal lines. Underside smooth, shining, uniformly brown and impunctate

Length, 7 mm

SIKKIM Gopaldhara, Rungbong Valley (H Stevens) Originally described from NFPAL

Type in the British Museum.

40 Plagiodera micantipennis, Stal.

Plaguodera micantipennis, Stal, Ofv Vet -Ak Forh xv, 1858, p 251.

Body strongly convex General colour of the elytra greenishbronze with purple reflections which are generally visible as longitudinal bands alternating with green according to the angle of incidence, a lateral band along the elytral margin, the underside

and the lest of the body, leddish-brown.

Head upper suriace punctate, slightly depressed in the middle. with A-mark, of which the vertical longitudinal line is not strongly impressed Antennæ short, stout, haidly passing beyond base of pronotum; tirst segment club-shaped, second shorter than third, fourth, fifth and sixth almost equal to each other in length; all of these segments are shining brown and smooth, the seventh and eleventh form a thickened, pubescent, blackish club Prothorax almost twice as broad as long, tront margin emarginate to fit the width of the head, and narrower than the basal margin which is widely arched, sides rounded and oblique, anterior and posterior angles rounded, surface closely punctate Scutellum triangular with surface smooth, impunctate, brown, in some cases the three sides are edged with a black border Elytra broader than prothorax, convex humerus raised into a convex knob; the marginal brown band is raised, very slightly convex, broader at the base and narrower towards the apex, bounded on the inner side by a row of punctures, its surface nearly impunctate; disc of elytra closely covered with punctures which have a tendency to arrange them-Underside unitormly brown, lighter than the selves in rows browns of the upper side, shining, smooth, impunctate

Length, 6½ mm

CEYLON.

Type in the Stockholm Museum. Specimens determined by Baly in the British Museum

41. Plaguodera rufescens, Gyllenhal

Chrysomela rufescens, Gyli, in Schonh, Syn Ins 1, 2, 1808, p 267. nots f, Weise, Arch Naturg lxvi, 1898, p 212 Coccinella vii escens, Hope, in Gray, Zool Misc 1831, p 31, Weise, Arch Naturg lxiv, 1898, p 212 Plagiodera cinctipennis, Baly, Ann Mag Nat Hist (4) x, 1862, p 26

Body convex General colour of the head, pronotum, elytral margin all round and underside, reddish-brown, disc of elytra dark

brown with bronzy reflections.

Head broader than long, surface slightly depressed in the middle, scattered over with a few punctures, with a median longitudinal line which meets two oblique lines, forming a A-shaped figure; eyes convex. Antennæ short, hardly passing beyond the pronotum, the four basal segments shining, first stout, clubshaped, second, third and tourth small and almost equal to each other in length, fifth and sixth more thickened than the preceding three and slightly pubescent, the next five segments form a thickened and pubescent club which is piceous in colour. Prothor are narrower than elytra at the base; nearly twice as broad as

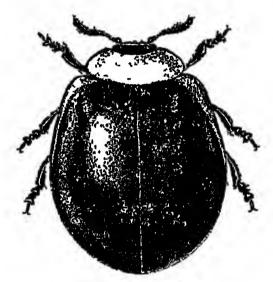


Fig 21 -Plaguodera rufescens, Gyll

long, the front margin widely emarginate to fit the width of the head, narrower than the posterior margin, sides widely rounded and oblique, basal margin uniformly and widely arched; upper surface sloping from base to front, smooth, shining and extremely finely punctate when seen under a high power Scutellum triangular, with surface brown, smooth and impunctate. Elytra convex, rounded, anterior lateral angles rounded; edge all round with a margin which is broader at the base and narrower towards the apex; humerus raised into a knob, surface entirely and closely covered with punctures which tend to be arranged in irregular rows; the punctures vary in depth in the specimens before me; surface of the margin less punctate. Underside shining brown.

Length, 5 mm.; breadth, 4 mm.

N INDIA Ratapani, Haldwani district, Kumaon, U.P., on

Gymnosporia championis (CELASTRACEE), 20 iv 1923, 21 specimens (H G Champion) Originally described from "INDIA ORIENTALIS," and also subsequently recorded from CEYLOX

Type of Coccinella vir escens. Hope, and of Plugiodera cincupennis,

Baly, in the British Museum.

42 Plagiodera divisa, Jacoby.

Melasoma divisa, Jac, Proc Zool Soc. Lond 1887, p 83

Body ovate, moderately convex Colour brown, the five apical segments of the autennæ and the scutellium black, the suture and a broad longitudinal band commencing from the base of the elytron and bifurcating at about the middle, metallic green, the outer branch of the bifurcating band usually becomes very narrow and, bending round inwardly, continues to meet at the sutural angle the sutural stripe of a similar colour, the inner branch extends a little beyond the middle, the sutural stripe, the elytral band, its breadth, its point of bifurcation, and the breadth and length of

the branches, all vary

Head broad, fitting well within the emargination of the pronotum; upper surface depressed in the middle, finely punctate and having a A-mark, which in some specimens is well defined and in others feeble. Antennæ short, hardly extending beyond the base of the pronotum, first segment comparatively stout and clubshaped, second small, rounded, third slightly longer than second, fourth, fifth and sixth gradually becoming stouter, the seventh to eleventh much stonter, slightly expanded laterally and inwardly, and pubescent. Prothoran almost twice as broad as long, narrow in front, front edge emarginate, posterior margin correspondingly but more widely arched, sides and anterior and posterior angles rounded, upper surface gently convex from side to side, very minutely and scatteredly punctate, the punctures can be seen under a high power Scatellum triangular, smooth, shining, Elytra broader than prothorax; humerus raised impunctate into a prominence, along the lateral margin of each elytron is a slightly convex border which has the same width at the base as at the apex, is bounded by rows of punctures and also has one or two longitudinal rows along its middle line: the outer branch of the greenish elytral band runs along the inner side of this border, but stains only the apical part of its surface, surface of each elyfron confusedly and thickly punctate, one or two longitudinal rows may be recognized along the suture Underside smooth, shining, impunctate; sometimes the legs are stained with piceous, inner edge of the elytral epipleuron darker, tarsi not so strong as in other species of the genus, the claw-segment projecting much beyond the bilobed segment

Length, 4½-5 mm CEYLON (type-locality) SOUTH INDIA · Kanara (T. R. Bell) Type in the British Museum

43 Plagiodera transversa, Olivier

Chrusomela transversa, Ol, Ent v, 1807, p 577, pl 9, fig 134

The antenne are black with the base yellow-brown. The eyes are black. The head is yellow-brown, marked on the vertex with a strongly impressed transverse line The pronotum is shining yellow-blown, without any markings The scutellum is yellowbrown The elytra are very finely punctate, shining dark blue. The underside of the body is yellow-brown. It was obtained by M. Riche from "East India" The type is in M Brongmart's

The above is a translation of the original description in Latin and French I have not seen the insect The figure in Olivier's work, which is wrongly numbered, does not help in arriving at a This insect is put doubtfully under the genus proper diagnosis Plagrodera in Weise's Catalogue (Col Cat, part 68, 1916, p. 137), and is not included in the key which I have given above (p 61)

Genus CHRYSOMELA. Linn

Chrysomela, L, Syst Nat, ed. x, 1758, p 368, Latreille, Consid. gén 1810, p 432 *

Melasoma, Steph, Ill Brit Ent iv, 1831, pp 349-350, id, Man 1839, pp 303, 307, Redt, Gatt deutsch Kaferf 1845, p 116, Weise, Ins Deutschl vi, 3, 1884, p 551, Fowler, Col Brit Isl. ir, 1890, p 308, Everts, Col Neerl n, 1903, p 445, Rentter,

Fauna Germ 1v, 1912, pp 124, 126.

Lina, Redt, Fauna Austr 1849, p 551, Chapuis, Gen. Col x, 1874, pp 369, 375, Jacoby, Biol Centr - Amer vi, 1882, p 193

Melosoma, Bedel, Faune Col. Bass Seine, v, 1892, p 141

Bionomics Kirby & Spence, Introd Entomol 11, 1817, p 279, Westwood, Introd Classif Ins i, 1888, p 388, f 48, Chapuis and Candèze, Mém Soc Liège, viii, 1853, p 610

GENOTYPE, Chrysomela populi, L

Head broad, with the upper surface marked Body elongate with a Y, depressed and punctate. Antenna hardly extending beyond the base of the pronotum, with the six apical segments thickened, forming an elongate club. Prothorax slightly narrower than the base of the elytra, its front edge broadly emarginate. posterior angles almost right angles, anterior angles rounded, an obliquely longitudinal strip of surface on each side of the pronotum is raised and convex Soutellum triangular with apex rounded. Elytra confusedly punctate, along the lateral margin of each is an impunctate narrow border which is slightly convex, distinctly bounded from the confusedly punctate surface, and which sometimes bears an irregular row of punctures. Underside in the species which represents this genus in India, the chief character which normally differentiates a beetle of this subfamily, viz, that the third (bilobed) segment of the tarsus is not split but entire

^{*} Relative to the name of this genus, see remarks above (p 17) under Chrysolina

(that is, having the two lobes joined), is absent*. The tibiæ are channelled on the outer edge, the femora similarly channelled on the underside for the reception of the tibiæ Anterior coxal cavities open Claws simple

Chrysomela differs from Chrysolina by having the mentum small, the episterna of the metathorax parallel, the lobes of the third segment of the tarsi split, the prothorax nairower than the elytra, and the upper surface of the elytra confusedly punctate

Range The species of the genus as a whole are recorded from Europe and Asia, Tropical and South Africa, Madagascar, North and Central America; those of the subgenus Chrysomela, s str, to which Oh populi belongs, from Europe and Asia

Key to the Species.

Elytra bright red in the living insect, light brown to red-blown in dried specimens, without metallic reflections Elytra metallic greenish, or occasionally violaceous, with seneous reflections

Ch popul, L, p 68
Ch chlorina, sp n, p 69

44 Chrysomela populi, $L \uparrow$

Chrysomela populi, L, Syst Nat ed. x, 1758, p 370

Colonr of elytra from light brown to red-brown, during life bright red, of prothorax, scutellum and underside blue-black, sometimes the prothorax has a very slight greenish tinge, the six thickened apical segments of the antenna piceous, the apices of the sutural margins of the elytra blackish, which is sometimes obsolescent; the colour of the underside varies, sometimes being very light, almost brown

Head as broad as the emargination of the front edge of the pronotum, deeply impressed with a Y-shaped mark on the upper surface, which is closely punctate, areas round the roots of the antennæ elevated and smooth Antennæ with the five basal segments smooth and shining, the apical six covered with fine pubescence, first segment much thickened, second small, rounded. third longer than fourth, fifth more or less globular and shorter than fourth, the sixth to the eleventh gradually thicker Prothorax quadrate, broader than long, basal margin widely arched, sides gradually rounded and slightly drawn forwards at the anterior lateral angles, the pronotum is gently convex from side to side and finely punctate in its central area, on the lateral, elevated, longitudinal area, which is separated from the central by a deep and oblique depression, the punctures are Scutellum triangular with apex rounded, and much coarser Elytra broader than the surface smooth and impunctate prothorax; the surface of each is completely and closely covered

^{*} See footnote on p 4
† For full hibliography, systematic, anatomical, and biological, see Weise,
Col Cat, part 68, 1916, pp 144, 145

with punctures; a slightly convex, narrow and smooth border, distinctly delimited from the coarsely punctate surface, runs the whole length of the elytron, this border being as broad at its base as at the apex *Underside* shining, abdominal segments finely punctate

Longth, 8-11 mm

HIMALAYAS Kashmir, 5200 feet, iv-vi 1923 (F. J. Mitchell), Dungagah, Hazara district, 8000 ft, 21-24 v 1915 (Fletcher, Pusa Coll.); Simla Hills, Matiana, 8000 ft (N Annandale), Phagu, 9000 ft, 8-21 v 1916 (Annandale and Kemp); Darjeeling (G Rogers); Rankhet, W Almora, 7000-9000 ft., vi. 1917, and Sukhatal, 8000 ft, both in Kumaon (H G Champion). Assam: (W. F Badgley), Shillong (F W Champion), same locality, 10. vi 1918 (Pusa Coll) Originally described from Europe, also known from North Africa, North and West Asia, China and Japan

Etienne Rabaud (Feuille jeun Natur. xxxix, 1909, p. 101) reports that this beetle is attacked by a dipterous parasite, Meigenia bisignata (Meigen), species of this genus are known to parasitize certain other Chrysomeline

45 Chrysomela chlorina, sp nov

Body oblong, slightly broadened posteriorly. Colour of elytra and underside metallic greenish with brassy of bronze reflections; in some specimens the greenish colour is replaced by purple or violaceous, pronotum, legs and lateral margins of the abdominal sternites faintly brown, a group of five small round spots on the pronotum, and sometimes its anterior and posterior edges, blackish, two of these spots, in the middle, are more prominent, the others more or less obsolescent, the six or seven basal segments of the antenue shining brown, the rest blackish.

Head broad, depressed in the middle, more or less closely and strongly punctate, the punctures in the central depression coalesce and produce rugulosity; clypeus well delimited by two deeply impressed oblique lines meeting at a point in the depressed central area, eyes strongly convex. Autenna short, hardly reaching the base of the pronotum, the four apical segments forming a thickened club covered with whitish hairs, first segment very large and globular, second shorter than third, rounded at its apex and constricted at its base, third and fourth more or less equal, fifth slightly shorter than fourth and similar in structure to second, sixth and seventh very short, the six or seven basal segments are sparsely punctate, each puncture bearing a silvery-white hair. Prothorax broader than long, front margins widely emarginate, base slightly convex in the middle, from which point to the posterior lateral angle on either side it is almost straight, sides straight, broadly rounded at the anterior angles, posterior angles almost right angles; on the pronotum along the iniddle is a longitudinal, faintly but distinctly

impressed line, which is sometimes very faint and often obliterated posteriorly, the whole surface is punctate with a mixture of finer and coarser punctures, the former being more numerous on the central area and on the lateral areas, where some punctures have coalesced, especially along the margins, on each side of the longitudinal central line the surface is very slightly depressed, in some specimens more so than in others, pronotal plackish round spots are disposed as follows on the central area, on each side of the longitudinal middle line, a comparatively large and often prominent spot, a little posterior to it, but exactly on the middle line, a small spot, and one on each side, generally on the depression. Scutellum triangular

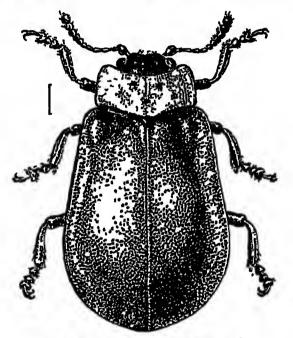


Fig 22 - Chrysomela chlorina, Maulik

with apex rounded; surface rough, finely punctate and sometimes with a depression Elytra slightly broader at the base than the prothorax, humerus convex, prominent, and just within it there is a deep depression, the whole surface is closely and strongly punctate near the suture and on the basal area there is a tendency for the punctures to form longitudinal rows, posterior to the humerus is an ill-defined 11b, the interstices generally are not smooth, the marginal area posterior to the humerus is rugose, along the margin lies a slightly raised, impunctate, but more or less rugose border, followed by a longitudinal row of punctures along the extreme edge Underside the surface generally is transversely strigose, one or two abdominal sternites may have

few scattered punctures in the middle; prosternum slightly constricted in the middle, broadly rounded at the apex, sides margined, surface rough. Tarsi with the third (bilobed) segment split along the middle, the claw-segment long, projecting much beyond the preceding one, the claws simple

Length, 6½-8 mm

Western Himalayas Kumaon, Almora, Rankbet, on Alnus, vi 1917, Sunderdhunga Valley, 8000-12,000 ft (H G Champion). This species is gregarious, large numbers being found feeding together

Type in the British Museum Described from seventeen

examples.

Genus PAROPSIDES, Motschulsky.

Paropsides, Motsch, in Schrenck's Reisen Amurl 11, 1860 p 192, Chapuis, Gen Col x 1874, pp 442, 445, Marseul, Abeille, xxvii, 1889, p 144, Weise, Arch Naturg. 1xvii, 1901, pp 166, 168

GENOTYPE, Par opsis duodecimpustulata, Gebl. 1825 (Siberia)

Oval or rounded, convex beetles. Colour dark brown, reddishbrown, or light yellow, with or without markings. Head broader than long fitting the emargination of the pronotum, with surface punctate and with a Y-shaped mark Antenne not long, hardly passing beyond the base of the pronotum. Mandibles strong; labium broad and set with bristles, apical segment of the labial palpi broad, more or less compressed and truncate Prothoraw much broader than long, front margin emarginate, the posterior margin is a wide aich so that generally there are no posterior angles, neither are there any well-defined lateral margins, anterior angles generally rounded Scutellum triangular with varying degree of angularity of the apex Elytra punctate-striate. the number of strie varies, and sometimes the punctures are so numerous and confused that the strue can be hardly recognized. Underside prosternum convex, elongate, its posterior end having a A-shaped notch which fits into a small projection of the anterior end of the mesosternum; the epipleuron of each elytron 18 vertical, concave, and broader at the base than at the apex. The first segment of the tarsi is broad and oval, in repose it fits into a concavity in the apical and outer side of the tibia; the claws have a sharp appendix on the underside

Range East Siberia, China, India, Australia

Key to the Species.

1 Each elytron has six laige, roundish, light brown patches on a red-brown ground-colour No such markings

P pardales, Jac., p 72

2 Pronotum with three roundish black patches and each elytron with a J P duodecompustulata, Gebler, pattern of sixtern black patches

No such markings 8 Body more convex and larger, length-

11-12 mm, breadth 8 mm, generally with four black spots on the pionotum and a few on the elytia, elytral punctures generally irregular Body more elongate, length 10 mm, breadth 7 mm, without any markings at all punctures arranged in ten 10ws on each ely trou

var hier oglyhica, Geblei,

P nigi onunctata, Jac , n 74

P chennelli, Baly, p 76

46 Paropsides pardahs, Jacoby

Paropsides paidales, Jac, Ann Mus Civ Genova, TXVII 1892, pr 918

Body convex, rounded Colour shining dark red-brown to lighter brown; each elytion has six lighter-coloured roundish patches desposed as follows one at the base just outside the scutellum, another behind the humerus, a third placed near it on the muer side, the fourth and fifth on a tiansverse line behind the middle, and finally the sixth situated on the apical Apices of the mandibles, edges of the prosteinum, the

mesosternum and the middle coxe, black

Head broad, surface covered with finer and coarser punctures, the oblique arms of the Y-shaped mark enclosing a very wide angle and curved inwardly at their apices, eyes convex and placed obliquely Antenna hardly passing beyond the base of the prothorax, the five apical segments dilated and very sparsely covered with fine bans, first segment thickened and club-shaped, second short, third slightly longer than fourth, fifth and sixth almost equal to each other in length. Prothorax as broad as the elytra at the base and twice as broad as long, front maigin emarginate, from one auterior augle to the other the margin forms a finde and continuous arch, upper surface confusedly and more or less uniformly covered with coarser and iner punctures Scutellum triangular, smooth and impunctate Elytra convex, each elytron has one long scutellar low of punctures and nine other rows, between the ninth (outermost) row and the margin there are some confused punctures, in some examples the Underside smooth, shining, punctures are black, in others not Impunctate The convex prosternum is channelled longitudinally in the middle

Length, 8 mm Karen Hills (Fea, Doherty, type-locality), Ruby Sadiva (Doherty), Manipur Mines, 5500-7500 ft Assau (Doherty)

Type in the British Museum

47 Paropsides duodecimpustulata, Gebler, var hieroglyphica, Gebler

Paropsis hieroglyphica, Gebl., in Hummel, Essais ent rv, 1825, p 55, Jac., Proc Zool Soc Lond 1888, p 348, Marseul, Abeille, axvii, 1889, p 146, Jacobson, Hoi Ross xxvii, 1892 (1893), p 123, Weise, Arch Naturg 1xvii, 1901, p 169, Jacobs, Kaf Russl 1909, pl 57, f 40

Body oval, convex Colour dark brown to light brown with the following pattern of black spots and patches on the head, pronotum and elytra two patches on the head, three roundish patches on the pronotum, one occupying the middle and each of the others the lateral areas, on each elytron, three transverse lines—one basal, one median and the third postmedian—of more

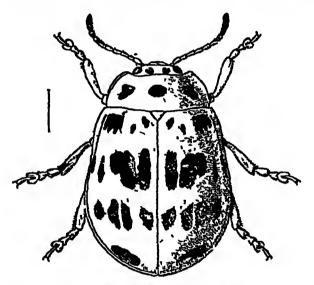


Fig 23'-Paropsides duodecimpustuluia, Gebl , var hieroglyphica, Gebl

or less longitudinal patches, five in each line, some may be more elongate than others and some may be only small spots besides this pattern of spots there is generally one small roundish spot on the apical area, so that there are altogether sixteen patches on each elytron, in the median series the second and third patches

counting outwards from the suture are generally joined

The above description of the pattern is drawn up from var hierogluphica, which is a definite variety, to which all the specimens of this species from our faunistic area belong. In the typical form of P duodecomputational some of the spots and patches are greatly enlarged and coalesce to form bands, thereby suffusing the surface with so much black that the yellow-brown ground-colour is considerably reduced, and the insect possesses yellow-brown patches on a black ground. In such individuals

the head and pronotum are generally entirely black. Such specimens have not yet been recorded from within our limits, but occur in Siberia and China. In all cases the fundamental unity of the colour-pattern can be traced. The underside of typical P duodecimpustulata is generally entirely black, but in some specimens the colour is much lighter, in var hieroglyphica it is usually dark brown with black in the central area, but this may be darker or lighter. This insect having so wide a distribution,

such variation may be expected

Head broad, entirely punctate, with the surface uneven. Antennæ passing beyond the base of the pronotum, first segment club-shaped, second smaller than third, which is slightly longer than the fourth, fifth is almost equal to fourth, from the sixth to the eleventh the segments are slightly thicker Prothorax much broader than long, the shape and form being characteristic of the genus, upper surface inneven, slightly depressed on the lateral areas occupied by the black patches, surface covered with finer and coarser punctures, the former being on the central area and the latter on the lateral Scutellum triangular, smooth, impunctate Elytra broader than the prothorax, not very thickly punctate, the punctures more or less arranged in strate, which, however, are not regular enough to be definitely counted, in some specimens they are more regular than in others Underside smooth, shining, impunctate

Length, 6-8 mm

Assam (W F Badgley, Atlinson), Khasi Hills, 1000-3000 it, Gauhati (Andrewes), Shillong, 1000-5000 ft, v 1905, and Dumpep, Khasi Hills 6000 it, 19 x 1920 (Fletcher), 10 examples from these localities in the Pusa Collection BURMA Ruby Mines (Doherty) Also known from Siberia and China

Lucation of type unknown to me

48 Paropsides nigropunctata, Jacoby

Par opsides nigi opunciata, Jac, Ann Mus Civ Genova, xxxii, 1892, ii 918

Body o'al, convex Colour shining dark red-brown to light yellowish, two round black spots on the head, four black spots or small putches on the pronotum and three on each elytron are so arranged as to form a circle, of the elytral spots the largest one is nearest the suture and has the shape of an inverted comma, the arms sometimes uniting and ruining along the suture to the scutellum, besides this pattern of spots each elytron has one round one on the outer part of the disc just behind the middle. All these spots are variable in size and intensity, in some cases they are quite obsolescent, and sometimes they are much larger, coalescing with each other. The apices of the mandibles are black

Head broad, with surface strongly and closely punctate, the Y-shaped mark is very wide, its oblique arms being curved at

their apices and forming a very wide angle; eyes convex and placed obliquely. Antennæ just passing the base of the prothorax, sparsely sprinkled over with hairs, first segment club-shaped, second small and rounded, third and fourth equal in length, fifth and sixth similarly equal to each other, each of the next five segments slightly thickened. Prothorax almost as broad as the base of the elytra and more than twice as broad as long, front margin widely emarginate, anterior angles more acute than the

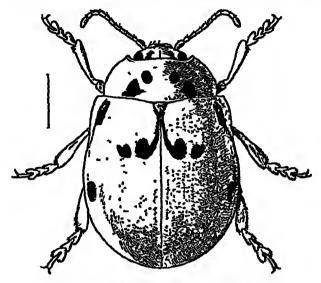


Fig 24.—Paropsides nigropunctata, Jacoby, Q

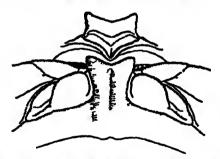


Fig 25—Paropsides nigropunctata, Jacoby Prosternum, anterior come and trochanters, and anterior part of mesosternum

posterior ones which are, in this species, widely rounded, sides convex, basal margin more or less bisinuate, upper surface greatly convex from side to side and completely covered with punctures which are more crowded and coarser at the sides than in the middle Scutellum triangular, with urface smooth and impunctate. Elytra widening be ind to a certain extent, the convex, shiring, impunctate humerus covered by one of the large round black

patches, surface moderately closely and confusedly punctate; amidst the confused punctures about eight or nine rows at long intervals are distinguishable, but they are not definite *Underside* smooth, shining, impunctate The first segment of the tarsi is the largest

Length, 11-12 mm, breadth, 8 mm

BURMA Karen Hills, v-x11 1888 (Fea) Assam Manipui (Doherty), Shillong, 5000 ft, v1-v11 1918, on apple leaf (Fletcher) Sikkim Gopaldhara, Rungbong Valley (H. Stevens), Lebong, Darjeeling, 5000 ft, 1x. 1908 (Leftoy) One specimen from Mungphu, from Jacoby's own collection and marked by him as a type, is now in the British Museum, although this locality is not mentioned in the original description. The true type should be in the Genoa Museum.

49 Paropsides chennelli, Baly

Paropudes chennelle, Baly, Cist Ent 11, 1879, p 438

Body elongate Colour brown without any markings

Head broad, coarsely punctate, the oblique arms of the Y-shaped mark are straight Antenna slender, spaisely covered with hairs and reaching a little beyond the base of the pronotum, first segment elongate, club-shaped, second small, third and fourth almost equal to each other in length, fifth a little shorter, from the sixth to the eleventh the segments are very slightly thickened less than twice as broad as long, sides straight and nearly parallel from the base to the middle, thence rounded and converging to the apex, anterior angles acute, posterior obtuse, front margin broadly emarginate, basal margin very gently bisminate on either side, upper surface rather coarsely and closely punctate, broadly excavated on either side, where the punctures are coarser and coalesce to make still coarser pits Scutellum triangular, smooth, Elytra convex, broader than the prothorax, very ımpunctate slightly dilated behind, broadly rounded at the apex, regularly punctate-striate, each elytron having nine rows besides a scutellar row, between the ninth row and the slightly reflexed lateral margin there is a broad, smooth space which may be called the tenth interspace outside which the surface is slightly depressed and strongly, coarsely and confusedly punctate, interspaces very minutely and confusedly punctate and, counting the interval between the suture and the first row as the first, the third, fifth, seventh, and ninth appear to be slightly elevated, and not, as Baly writes, the fourth, sixtle, eighth, and tenth, although this character is more clearly visible in the type-specimen from Assam, yet all the specimens from Sikkim do not show it Underside sometimes darker than upper side, smooth, shining and impunctate

Length, 10 mm, breadth, 7 mm

ASSAM (type-locality) SIKKIM Gopaldhara, Rungbong Valley (H. Stevens)

Type in the British Museum

Genus PHYTODECTA, Kirby

Phytodecta, Kirby, Fauna Bor-Amer 1v, 1837, p 213, Weise, Ins Deutschl vi, 3, 1884, p 488, Jacobson, Hor Ross xxxv, 1901, p 89, Reitter, Fauna Germ 1v, 1912, p 128

GENOTYPE, Chrysomela rufipes, de Geor, 1775 (North America)

In 1837 Kirby proposed Phytodecta as a subgenus of Chrysomela, for the above North American insect, on two characters: (1) "tibia armed near apex with an external tooth, (2) elytra punctured with the punctures arranged in rows" Later the subgerus was given the rank of a genus. The geographical The geographical distribution is generally Palearctic, representatives having been obtained from North America, Norway, Sweden, Finland, Siberia, China, Japan, the Carpathians, and the Ural Mountains, and also occurring in Central Europe The insects described under this genus from our faunistic limits are from Burma and Manipur in the north-east coinei of India. In general form and build of the body and in the possession of the external tibial tooth our species resemble the genotype, but they differ in having the elytial punctures confused and not airanged in definite series. In spite of this fact a tendency to form series amongst the confused punctures is always noticeable, in some species, as for example in Ph flavoplagiata, Jac, from Tonkin, more markedly than in Ph chrysomeloides, Jac In those species in which the regularity of the series is most pronounced, as in all which are before me in the collection of the British Museum, the interspaces are more minutely and confusedly punctate On the other hand, when the interspatial punctures become stronger and more dominant, the whole punctuation of the elytra is confused In spite of their geographical distribution and the absence of seriate punctuation of the elytra, I am unwilling to erect a separate genus for these species, although it is possible that examination of more material later may justify their separation

Range, discussed above

Key to the Species.

1 Pronotum with four round black spots Ph chrysomeloides, Jac. ın a transverse line Propotum with no such spots 2 Elytial punctures strongly impressed, confused, body feebly entirely Ph trilochana, F. n., p. 81. shining Elytral punctures not strongly impressed, with at least a certain amount of airangement in longiswor lantbut Ph siva, sp 1- 1-80. 3 Insect opaque Ph manaparie, E. L., p. 15 4 Insect shining

50 Phytodecta chrysomeloides, Jucoby

Phytodecta chrysomeloides, Jac, Ann Mus Civ Genova, xxvu, 1889, p 189

Body subquadrate-ovate, very convex Colour yellow-brown to darker brown, with four black spots in a transverse line on the pronotum; scutellum black, each elytron with seven black spots distributed as follows on the humerus, a larger one near the scutellum, two placed transversely at the middle, of which the inner spot is of narrowly transverse shape, and three others placed transversely below the middle, the innermost spot being situated on the sutural margin, breast piceous, sometimes black, posterior margin of the pronotum and base of elytra edged with black,

Hend. upper surface uneven, finely punctate, anterior margin of epistome straight Antennæ not extending beyond the base

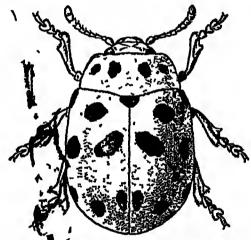


Fig 26 - Phytodecta chrysomeloides, Jacoby

of the prothorax, the six terminal segments transversely widenedeach more so than the pieceding one, first segment long, club,
shaped, second shorter but thicker than third, third, fourth and
fifth almost equal to each other Prothorax twice (not three
times, as Jacoby writes) as broad as long, sides straight and
oblique, nairowed in front, front margin emarginate, posterior
margin forming a nearly straight, but oblique, lire on either side
from the middle to the hind angle, anterior angles rounded, almost
right angles, posterior acute, surface convex with a few irregularly
distributed punctures, stronger at the sides than on the disc
Scutellum triangular, much broader than long, smooth, impunctate
Elytia subquadrate, very convex, as broad at the base as the
prothorax, widened behind, upper surface very strongly, closely
and confusedly punctate, a narrow border along the lateral margin
impunctate; on each elytron two narrow impunctate longitudinal

stripes are faintly visible *Underside* strongly punctate, the three intermediate abdominal sternites narrow and edged with black. The tibiæ triangularly dilated and toothed near the apex, and excavated in the same region on the upper side for the reception of the first segment of the tarsus. The claws with an appendix on the underside

Length, 7½-8 mm

BURMA Bhamo, July (L. Fea), Momerk (Doherty)

Type in the British Museum.

51 Phytodecta manipuria, sp. nov

Body oblong-ovate Colour slining yellow-brown to red-brown with black markings on the head, pronotum and elytra arranged as follows one roundish patch in the centre of the upper surface of the head, at the base on each side of the longitudinal middle line on the pronotum is a large triangular patch, the apex sometimes reaching the middle of the disc, and the bases of the two triangular patches meeting in front of the scutellum, on each elytron at the base internal to the humeral callus a large patch. on a median transverse line two large patches, generally confluent in the middle, the inner one extending obliquely and along the suture to the scutellum, on a post-median transverse line two confluent patches which sometimes form a transverse, irregular band, the inner patch generally extending and staining the suture to some extent, and finally, on the apical area of the elytion, contiguous to the suture, is a roundish spot which sometimes extends along the suture to the apical angle, but is sometimes obsolescent. Scutellum black. Underside almost entirely black, sometimes the abdominal sternites are only partially so; the legs always share the general ground-colour of the body.

Head surface more or less uneven, closely punctate, the arms of the Y-shaped mark straight and sometimes very faint. Antennæ hardly passing beyond the base of the pronotum; first segment large, thickened, second small, third much longer, fourth a little shorter than third, fifth and sixth are equal to each other. from the seventh to eleventh the segments are gradually thicker and piceous in colour. Prothorax as broad at the base as the base or the elytra, front margin widely emarginate; posterior margin forming an almost straight, but slightly oblique line on each side of the middle; sides straight and parallel from the base to the middle, whence they curve in towards the anterior angles, which are rounded, the posterior ones being almost right angles, upper surface convex, more or less sparsely covered with a mixture of finer and coarser punctures, the latter are mostly crowded on the sides and the former in the middle area. Scutellum smooth, impunctate and shining Elytra almost parallel-sided, rounded at the apex; surface confusedly covered with finer and coarser punctures, which however show some tendency to form rows; some of the intervals, particularly one or two just within the

humerus, are perceptibly raised, there is an impunctate marginal area along the edge *Underside* shining, finely and scatteredly punctate. These excavated at the apex for the reception of the first segment of the tarsus, and armed externally with a tooth; underside of the femora channelled for reception of the tibise, claws appendiculate

Length, 7 mm

Assam Manipur (Doherty)

Type in the British Museum Described from four examples

52 Phytodecta siva, sp. nov

Body oblong-ovate, opaque. Colour of head yellow-brown to red-brown with a black patch on the upper surface, the five terminal segments of the antennæ piceous, the remaining segments share the general colour of the head, pronotum yellow-brown to

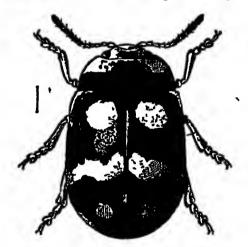


Fig 27 - Phytodecta siva, Maulik.

red-brown with the greater portion of the basal half black, this latter colour extending longitudinally and broadly to the front margin, scutellium black, each elytron largely black with the following yellow-brown or red-blown markings (1) between the scutellium and the humerus one large patch, (2) part of the surface round the anterior lateral angles, (3) an irregular, narrow and transverse post-median band, (4) nearer the suture on the apical part of the surface one small round spot, and (5) finally a smaller area at the external apical angle. Underside generally black, abdominal sternites partly so, and an area along the sides of the prothoracic sternium, with the epipleura, yellow-brown or red-brown, the legs sharing this latter colour. The whole insect may be conceived as having brown as the ground-colour and black as secondary, but the latter predominates to such an extent that the opposite may be the true colour-scheme

Head broad, with the upper surface closely punctate and with the arms of the Y-shaped mark straight. Antennæ short, hardly passing beyond the base of the pronotum; first segment long, thickened and club-shaped, second small and rounded, third elongate, longer than fourth, fifth and sixth smaller and stouter, the seventh to the eleventh gradually thicker; the whole antennæ sparsely covered with fine hairs. Prothorar broader than long, gently convex from side to side, front margin emarginate, basal margin almost straight, sides almost straight from the base to the middle and thence curved in towards the anterior angles, which are rounded, the posterior being almost right angles, upper surface closely punctate, with a fine impunctate longitudinal line along the middle. Scutellum broad, smooth, shining, impunctate. Elutra as broad at the base as the prothorax, slightly widening behind; the upper surface is much smoother than in Ph. manipuria and the punctures are more regularly arranged than those of any other species from our region; they are more or less arranged in double rows, and this regular disposition extends throughout the whole length, though the intervals are confusedly punctate; on each elytron two or three very gently raised intervals may be recognized. Underside shining, covered with strong punctures. Tibis excavated at the apex and armed externally with a spine; femora channelled on the underside for the reception of the tibia; claws with an appendix on the underside.

Length, 6 mm

Assam: Manipur (Doherty).

Type in the British Museum. Described from two examples.

53. Phytodecta trilochana*, sp. nov.

Body ovate, feebly shining. Ground-colour red-brown with the following black markings the whole basal edge of the pronotum narrowly black with three extensions of the black colour forwards, one in the middle longitudinally and one on each side, the former projects narrowly along the middle, broadening in front, where it meets the auterior margin, the latter are each in the form of a more or less triangular patch, not meeting the lateral margin; scutellum black, on each elytron are (1) a large, round, black patch between the scutellum and the humerus, (2) a broad median band formed by the confluence of two large round patches, (3) on a post-median transverse line two patches, a small one contiguous to the suture and a much larger, round one situated further outwards, and (4) finally, at the apical sutural angle, a small elongate patch; on the underside the thoracic sterna and the first abdominal sternite are wholly, and the other sternites partly, black, antennæ much lighter than the ground-colour of the body.

Head broad, with the upper surface uneven, strongly and closely punctate, the Y-shaped mark being deeply impressed. Antenna

^{* &}quot;Three-eyed," a name of Sive, of Sanskrit origin.

passing beyond the base of the pronotum, first segment elongate, thickened and club-shaped, second also elongate and club-shaped, but shorter than the first and not much stouter than the third, third, fourth and fifth more slender, almost equal to each other, the sixth to the eleventh much thickened and covered with brownish hairs Prothoraw nariowed in front, broader than long, front edge emarginate, base almost straight on either side of the scutellum, sides almost straight or very gently rounded from base to anterior angles, which are rounded, the posterior ones being almost right angles, upper surface convex from side to side, the sides covered with large, coarse and confluent punctures, and the middle with both finer and coarser ones, the latter however are much less coarse than those on the sides Scutellum triangular with apex broadly rounded, almost as broad as long, smooth and

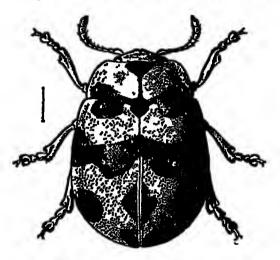


Fig 28 -Phytodecta trilochana, Maulik.

impunctate Elytra slightly broadened behind; their whole surface is confusedly and strongly punctate, without any trace of arrangement of the punctures in longitudinal series, in this particular this species shows an extreme condition within the genus, along the margin there is a narrow impunctate strip Underside more shining than the upper side, abdominal sternites more or less sparsely punctate, other parts also bearing punctures, sometimes coarser. Apices of tibis externally ending in a spine, excavated for the reception of the first segment of the tarsus; underside of femora channelled, claws with an appendix on the underside.

Length, 7 mm.
UPPLE BURMA Myitkyina District, Sadon, 2500-3500 ft.,
v 1911 (E Colenso)

Type in the Indian Museum, described from one example.

Genus PHYLLODECTA, Kuby.

Phyllodecta, Kilby, Fauna Bor-Amer 1v, 1837, p. 216; Weise, Ins. Deutschl vi, 3, 1884, p. 511, Fowler, Col. Brit. Isl. 1v, 1890, p. 316, Jacobson, Hor. Russ xxxv, 1902, p. 89, Everts, Col. Neerl. 11, 1903, p. 440, Reitter, Fauna Geim. 1v, 1912, p. 127

GENOTYPE, Chi ysomela vitellinæ, L. 1758 (Europe)

Kirby tormed this goilus by separating P. vitelline, L, from Chrysomela *, trom which it is distinguished by having the second autennal segment equal to the third. Actually these two segments look not exactly, but approximately, equal in length. I have examined P witelling in the British Museum collection; it is similar to the following insect from within our faunietic limits, in general structure as well as in the form of the antennæ. P. vitellinæ occurs in Europe, Siberia and North America. Two other important generic characters are (1) that the anterior coxal cavities are open in the present insect and (2) the appendiculate nature The third (bilobed) segment of the tarsus is not of the claws entire as is usually found in the sublamily, but split—a feature which is also present in Agasta for mosa and Chrysomela populi The occurrence of this Palearctic genus within our boundaries is interesting

Range North America, Alaska, Kamchatka, China, Siberia,

Asia Minor, Armenia, Europe

54. Phyllodecta abdominalis, Baly.

Phrator a abdominalis, Baly, Cist Ent 11, 1878, p. 375.

Body elongate Colour shining blue, the two basal segments of the antennæ brown, stained above with piceous, the other segments piceous or black, the two apical abdominal sternites

may be brown.

Head quadrate, vertex impressed, but not very closely, with large deep punctures, in front more closely but less coarsely punctured, the whole surface uneven, the roots of the antenne swollen, consequently the surface antenor to them is deeply depressed. Antennæ scarcely more than half the length of the body, and spaisely covered with fine hairs, first segment thickened, second long and slender, very slightly shorter than the third and equal to the fourth in length, fifth almost equal to fourth, the sixth to the eleventh slightly thickened, almost equal, elongate. Prothoras narrower than the elytra, quadrate, almost as broad as long, being about one-haif milimetre shorter along the shortest length than the width, front margin emarginate, anterior angles slightly drawn forwards, sides almost straight or slightly convex in the middle, base widely arched, posterior angles ending in an acute tooth, upper surface megularly punctate, interspaces smooth and shining in the middle and finely rugulose at the sides

^{* =} genus Chrysolma of the preceding pages

Scutellum triangular, small, smooth and impunctate. broader than the prothorax, parallel, rather strongly punctured, the punctures arranged in ill defined longitudinal lows which approximate towards the apex, the interspaces plain and very minutely punctured in front, rugulose outwardly below the humeral callus Underside impunctate except the margins of the abdominal sternites, each of which has a row of fine punctures. Basal segment of the taisi large, that of the auterior ones more broadened, the third (bilohed) segment not entire, that is, split longitudinally along the middle, claus appendiculate.

Length, 6 mm

PUNJAB. Murreo (Dr F. Stoliczka), same place, 7500 ft, vi. 1918 5 examples (Dutt, Pusa Coll) United Provinces

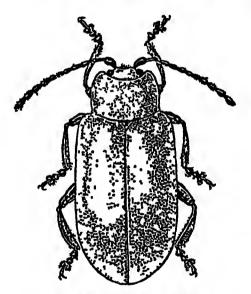


Fig 29 -Phyllodecta abdonunalis, Baly.

Nami Tal, Garhwal, 6500 ft., Sunderdhunga Valley, 8000-12,000 ft; all these three places in Kumaon, 16 specimens (H.

G Champion)

The type should be in the Indian Museum, where, however, it cannot be found, though the label is there ["Murree" (Yaikand Expd)] in Baly's handwriting. In the British Museum there is also a specimen which bears a label in Baly's handwriting, but it has "Kashgar" as the locality "Muiree" is the locality originally published Dutt's and Champion's specimens, recorded above, lend weight to the view that Muriee is correct as the original place, Dutt having taken this species there in 1918, and Champion s captures having been obtained not far away I have compared Champion's specimens with the specimen labelled by Baly in the British Museum, and they agree

Genus LYCARIA, Stål.

Lycana, Stål, Öfv Vet-Ak Foih. xiv, 1857, p. 59, Chapuis, Gen. Col x, 1874, p 420
Lygana, Jacoby, Novit Zool 1, 1894, p. 521, Weise, Deutsche Ent. Zeitschr 1895, p. 349, op oit 1900, p 269

Genotype, Lycana westermanni, Stål 1857 (Assam).

Body ovate, strongly convex. The apical segment of the maxillary palp is smooth, truncate and conical, the two preceding segments much thicker, club-shaped, and almost equal to each other in length. Eyes oblong, inner margin sharply emarginate. Antennæ much dilated towards the apex Prothorax almost as broad at base as the elytra Scutellum triangular with apex rounded Elytia punctate-striate, each with twenty rows of punctures, of which eighteen are more or less arranged in pairs, Prosternum narrow, anterior coxal cavities closed. Claws each divided into two parts, the inner one being smaller.

This genus was founded by Stal on an insect from Assam which he called L westermann, but it has since been taken in Siam, Burma and North India, thus it is evident that the insect has a wide range. Stal spelt the generic name with a "c," not a "g" as is given by Weise, Col Cat, part 68, p. 197, 1916. The "c" was changed to "g" by Gemminger and Harold (Minich Cat, xī, 1874, p. 3456) for etymological reasons, and other authors

have followed them I adhere to the original spelling.

Range, as stated above.

55 Lycaria westermanni, Stal.

Lycaria westermann, Stal, Ofv Vet-Ak Forh. xiv, 1857, p 59.

Body oval, very convex Colour yellow-brown to dark brown,

that of the six apical segments of the antennæ piceous.

Head surface covered with fine and coarser punctures, the finer ones being mostly in the middle, clypeus well marked off and covered with coarser punctures Antennæ extending slightly beyond the base of the pronofum, first segment dilated, second globular, thud club-shaped, from the fourth to the eleventh each segment is considerably dilated, with the root constricted, smooth and shiny, the dilated portion being opaque and hany; the last segment is bluntly conical Prothoran almost as broad as the base of the elytra, convex, sides rounded; upper surface shining and very sparsely covered with finer and coarser punctures, the latter being more numerous at the sides Scutellum triangular, with surface smooth and impunctate Elytra convex, humerus prominent, each elytron has a single row of punctures along the suture and nine paus of rows on the disc; the latter rows, though not very regular as regards the position of the punctures within each row, can yet be easily recognized as forming paned series, the rows converge and meet in pairs towards the apex.

Underside generally impunctate, except the femora, sparsely covered with fine golden-brown hairs

Length, 71-8 mm., breadth, 51-6 mm.

ASSAM (Doherty, type-locality). Burna: Ruby Mines (Doherty), Karen Mts (Doherty); Rangoon, Momeik (Doherty), Bhamo Hills, 4000 ft, v 1916, and Karen Hills, 3000 ft, 18-21 v. 1916 (F. W. Muckwood); Tenasserim (Atkinson). Tavoy (Doherty), Kawkareik, Amberst District, 19-20 xi 1911 (F. H. Gravely, Ind.

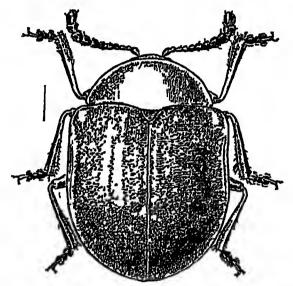


Fig 30 -Lycaria westermann, Sial

Mus Coll), Moulmein, 20 vi. 1911 (W H C. Pope); Mandalay, 3 iv 1913, Naba, 24 iv. 1918, Tatkon, 6-7. ix, on cotton (Fletcher), these last four records are based on 8 examples in the Pusa Collection Also occurs in Siam (Brit. Mus) and Inductional (Mouhot, Brit Mus)

Type in the Stockholm Museum.

There is in the British Museum a specimen identified by Stal, with a label written by Baly, this example is from Siam.

Genus CHALCOLAMPRA, Blanchard

Chalcolamp a, Blanch, Voy Pôle Sud, 1v, Zool 1853, p 328, Balv, Trans lênt, Soc I ond (n s) 111, 5, 1855, p 180, pl 14, f 4 a, h, and (3) 1v, 2, 1867, p 281, Chapuis, Gen Col x, 1874, pp 423, 425 (pars), Jacoby, Notes Leyd Mus vi, 1884, p 26, Jacobson, Hor Ross xxxvi, 1901, p 89

GENOTYPE, Chalcolampra convera,* Blanchard 1853 (Tasmania)

Most of the insects put under this genus are Australian From

^{*} Generally regarded as a synonym of cenen, Borsduval 1835.

our taunistic limits only two species have been collected. They are elongate, more or less parallel-sided. The head is as broad as the front margin of the prothorax, the eyes are convex, the antennæ are more or less slender. Prothorax quadrate, hardly broader than long; in many of the Australian species longer than broad, in others the convexity is more pronounced; within this genus there is much variation in the form of the prothorax. Scutellum narrow and insignificant. Elytra punctate-striate, slightly widened behind. Auterior coxal cavities closed. Claws appen liculate.

Range. Australia, Tasmania, New Zealand, China, Malay Peninsula, Ceylon, Sumatra, India, Burma, Andaman Islands.

Key to the Species.

56. Chalcolampra octodecimguttata, F.

Chrysomela octodecinguttata, F., Syst Ent. 1775, p 100, id, Spec. Ins 1, 1781, p 123; id, Mant 1, 1787, p 70, id, Ent Syst 1 1792, p 322, id, Syst El 1, 1801. p 430, Gmelin, in L, Syst. Nat ed viii, 1, 4, 1790, p 1676, Donovan, Epit Ins N Holl. 1800, pl 2, f*, Boisd, oy 'Astrolabe,' Col, 1835, p 575, Baly, Trans Ent Soc. III, 5, 1855, p. 186, and (3) 17, 2, 1867, p. 281.

Body elongate, parallel-sided. Ground-colour of head and pronotum light yellow-brown; that of the elytra varies from piceous or black, generally round the margins, to red-brown on the greater portion of the disc. The head has a black patch on the vertex, the pronotum a group of three or five roundish black spots on the unddle, of which the two front ones are larger and each is formed by the confluence of two patches; there is a great deal of variation in the pronotal markings. Scutellin black. Each elytron on a background of darker colour has the following lighter, yellow-brown, roundish spots in a longitudinal line between the suture and the middle, four, one basal, the second pre-median, the third post-median and the tourth on the point where the elytron slopes down towards the apex; ma second parallel longitudinal line, between the middle and the outer margin, a series of four similar spots which are situated respectively nearly parallel with, but slightly in front of, those of the first series. The underside has a background of dark brown colour interspersed with much lighter vellow-brown and in places with black, but the colouring is very variable.

Head broad, eyes convex. Interantennal space deeply and longitudinally excavated in the middle, the areas round the excavation convex, upper surface finely and sparsely punctate. Autenna passing a little beyond the base of the pionotum; first segment club-shaped, second small, rounded, third and fourth

almost equal to each other, from the fifth to the eleventh the segments are elongate, slightly thicker, sparsely covered with hairs, and piecous or black. Protion ax quadrate, almost as broad as long, improver than the base of the elvtra, front margin widely and feebly emarginate, base straight but oblique from the middle to the posterior angles, sides almost straight except in front, where they are slightly convex, anterior and posterior angles slightly greater than right angles, upper surface gently convex from side to side, and very finely and uniformly punctate. Soutellum narrow, smooth, shining and impunctate. Elytra almost parallel-sided, slightly widening behind, punctate-striate, on each elytron there are at the base (including a long scutellar row and the extreme

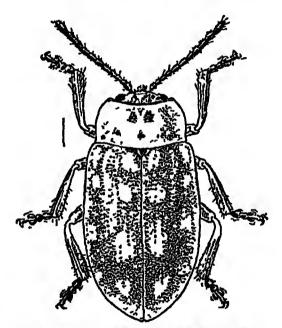


Fig 11.—Chalcolampra octodecimguitata, Fabr

outer marginal row) eleven series, but across the middle (counting from the suture) after the fifth row the punctures of the sixth, seventh and eighth rows become a little irregular; all the series converge and tend to become obliterated towards the apex, interval between the tenth and the extreme marginal series broader than the others. Unitersite shining, the abdominal sternites with a few scattered punctures, anterior coxal cavities closed; claws broad at the base, divaricate, and cut in at the middle

Length, 5-7 mm.
CLYLOV: Matale, 29 vi 1919 (R Sentor-White); Perademya,
26 vni, 1914 (R Rutherford) Burma N Chin Hills South
INDIA » Nilgiri Hills (G. F. Hampson). Originally described from

Australia, also known from Malacca, Pulo Penang, and Chita

Type probably in the Copenhagen Museum.

57. Chalcolampra dipa *, sp. nov.

Body elongate. General colour shining brown with black marks on the head and pronotum and with a pattern on the elytia, as follows a large ill-defined patch on the vertex of the head; on the pronotum a group of three roundish marks situated in the middle, of which the single hindmost one is obsolescent; scutellum black, elytra, on a general ground-colour of dark redbrown there is a pattern of patches of light brown, several of which assume definite shapes, enclosing in their centres smaller dark brown patches, on each elytion, parallel to the suture, a longitudinal series of five, the first close to the suture at the base and belund it the second, which is larger and has an obsolescent elongate, dark streak in the centre, and which, expanding in front, forms a loop joining the first in a broad patch which covers a certain part of the basal area, the third, an oval patch, is situated behind the second, the fourth is at that point where the elytion slopes down towards the apex, it encloses a dark brown patch, is more or less pointed at the posterior end, sending off an elect aim from its front end, the fifth is at the sutural angle; the humerus is dark red-brown; from the humerus to the postmedian area there is a large and elongate lighter yellow patch which extends right to the margin and along it to the anterior lateral angles of the elytron; this large light area contains three red-brown patches, the hindmost of which is the largest, all being situated within the last but one row of punctures, and finally, on the bend of the elytron towards the apex, is a pearshaped patch enclosing a red-brown one in the middle Underside uniformly bright brown. The colour-scheme may be either considered as produced by an inclusion of red-brown colour on a lighter background or vice versa

Head broad, with vertex convex, finely punctate, interantennal space with a deep semicircular channel separating the epistome from the rest of the surface, eyes convex. Antennæ extending a little distance beyond the base of the pronotum, slender, sparsely covered with hairs, black except the underside of the four basal segments, first segment club-shaped, second small, rounded, third and fourth almost equal to each other, fifth longer than each of the previous ones, the following segments are elongate and of similar dimensions. Prother are quadrate, almost as long as broad, or about one-half millimetre broader than long, front margin very gently concave, base very gently sinuate on either side, sides almost straight, bending inwards at the anterior and posterior angles, all of which are rounded; upper surface gently convex and very finely punctate. Scatellam small triangular, smooth, shining

^{*} Sanskist, meaning ' island"

and impunctate. Elyira broader than the prothorax; punctatestriate, on each elytron, at the base, including the scutellar row and the extreme marginal row, are eleven series; counting from the suture across the middle, between the fifth and tenth rows the punctures become irregular; towards the apex the punctures are feebler; the interval between the tenth and the extreme marginal rows is broader than the others. Undersale almost impunctate except for a few scattered punctures, anterior coxal cavities closed, claws broader at the base and cut in the middle.

Length, 6 mm

ANDAMAN ISLANDS (Roepstorff)

Type in the British Museum. Described from one example.

Genus PSEUDOLINA, Jacoby.

Pseudolina, Jac, Ann Soc Ent. Belg xl, 1890, p 252

GENOTYPE, Pseudolina indica, Jacoby 1896 (India).

Body elongate-ovate, apterous. Antennæ filiform; terminal segment of maxillary palpi as long as the preceding one, truncate at the spex Prothorax quadrate, narrowed behind, the sides nearly straight. Scutellum twice as broad as long. Elytra elongate, slightly widened at the middle, much narrowed behind, irregularly punctured, their epipleura broad, not furnished with hairs Underside. legs rather slender; tibim dilated towards the spex, not channelled; the first segment of the posterior tarsi slightly longer than the following one, claws simple Prosternum narrow, elongate; mesosternum of somewhat similar shape, slightly raised behind, metasternum scarcely longer than the prosternum. Antenior coxal cavities closed.

Range India. United Provinces.

Key to the Species.

58. Pseudolina indica, Jacoby.

Pseudolina indica, Jac, Ann Soc Ent Belg xl, 1896, p 253

Colour entirely metallic greenish or brownish-aeneous, antennæblack

Head surface uneven, with a few scattered punctures, in some individuals more numerous than in others, the area in front of the centre deeply depressed, the depression containing the transverse impression which separates the clypeus; eyes obliquely placed, elongate, convex. Antennæ nearly extending to the

middle of the elytra in the male, the two basal segments more or less brownish, first segment short and much dilated round the circumference, second short, third somewhat longer than fourth, which is almost as long as the fifth, the seventh to eleventh segments more or less of similar structure and size and more hairy than the basal six. Prothoraw a little broader than long, the greatest width a millimetre greater than the length, narrowed towards the base and widened in front, where the angles are broadly rounded, posterior angles a little greater than right angles, ending in a blunt point, sides nearly straight, posterior

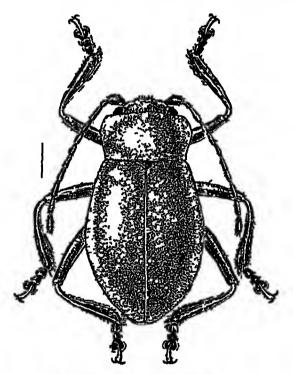


Fig 32 -Pseudolina indica, Jacoby.

margin almost straight; upper surface rather convex, finely, irregularly and not very closely purctate. Scutellum narrowly transverse, its apex pointed, the surface impunctate Elytica elongate, widened at the middle, strongly pointed towards the apex, finely and irregularly punctate, the interstices and the surface generally traversed by fine lines Underside. prosternum finely rugose, sparsely covered with hairs.

Length, 8 mm.

United Provinces (the label bears the letters "N.W.P.," denoting the older name of the region, r. c. North-West Provinces).

Type in the British Museum.

Ł

59. Pseudolina rama, sp nov

Body oblong, narrowed behind. Colour shining dark brown

with a bluish tinge

Head large, broad, sparsely and finely punctate on the central area and on the clypeus, more closely on the vertex and on the lateral areas Antennæ long and slender, more than half the length of the body, sparsely covered with fine whitish hairs; first segment thickened, second small, almost globular, third elongate, fourth and fifth each shorter than third, from the sixth onwards the segments become slightly thicker and opaque. Prothorax as broad as long, convex, broadened in front, narrowed behind, front and basal margins straight, sides slightly convex in front of the middle, anterior angles rounded and posterior right angles; upper surface uniformly and fairly closely covered with fine punctures Scutellum triangular, much broader than long, smooth and Elytra slightly broader at the base than the impunctate. prothorax, smooth, family closely covered with fine punctures; very fine lines joining puncture to puncture can be seen, but this striclation is without any regularity or uniformity Undersule finely punctate, each puncture bearing a fine silvery hair, the punctures are more crowded on the sides of the abdominal stermites. As compared with the size of the insect the legs are long, femora thicker in the middle.

Length, 5 mm., breadth, 3 mm Unired Provinces: Dehra Dun

Type in the Indian Museum, Calcutta Described from one example.

Genus POTANINIA, Weise.

Potaninia, Weise, Hor Ross xxiii, 1889, p 603

GENOTYPE, Potanima polita, Weise 1889 (China).

Body elongate-ovate, convex, sluning The apical segment of the maxillary palpi conical and pointed Antennæ filiform, the segments of almost equal thickness throughout about a millimetre shorter than the length of the body. Eyes convex. Mandales large and strong Prothorax subparallel, quadrate, slightly broader than long, and at the base almost as broad as the base of the elytra. Elytra slightly broadened behind the base, then parallel and somewhat narrower at the apex, punctate, the punctures arranged in rows near the suture and near the outer margin, while those in the iniddle are confused epipleura without calia-like bristles on the inner margin. Anterior coxal cavities closed Prosternum broad, metasternum bordered all round with a deep furrow. The third (bilobed) segment of the tarsus entire, claws simple throughout

Range. Eastern Himalavas, Assam, China

No key to the Indian species of this genus is given, since I believe that only one is really known from the region under review

and that the second species enumerated below, *P collaris*, Weise, will prove to be a synonym of the first, *P. assamensis*, Buly. As, however, I have not seen the type of *P. collaris*, I give a translation of Weise's description. For the same reason Baly's description of *Entomoscelis metallica* is cited below, though this also is probably a synonym of *Potaninia assamensis*.

60. Potaninia assamensis, Baly.

Entomoscelis assamensis, Baly, Cist Ent ii, 1879, p 437.

Potamnia assamensis, Jacoby, Ann Soc. Ent Belg al, 1896, p. 253;

Weise, Doutsche Ent Zeitschr 1905, p. 216.

Body ovate. Colour above reddish-piceous; underside piceous, shining.

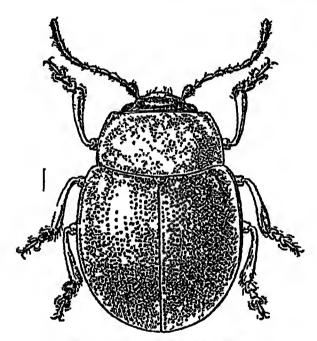


Fig 33 -Polaninia assamensis, Baly.

Head. clypeus more punctate than the rest of the surface, which is only sparingly impressed with fine punctures, Y moderately impressed, the vertical line being almost obsolete towards the vertex. Antennæ rather slender, more than three-fourths the length of the body. Prother as nearly twice as broad as long, sides rounded, nearly straight and parallel behind the middle, hind angles acute, anterior ones subacute, upper surface convex, smooth and shining, disc rather sparingly impressed with minute punctures. Scutellim impunctate, broadly triangular with apex rounded. Elytia broadly oblong-ovate, convex, impressed with

very fine punctures irregularly arranged in longitudinal series, which are difficult to count

Length, 7-8 mm

Assam (Chennell). Darjeeling. Lebong, 5000 ft., ix. 1908, 29 specimens (Lefroy, Pusa Coll).

Type in the British Museum.

In the original description Baly writes about the prothorax: "impressed on either side near the anterior angle with a shallow foves" I have examined all the specimens, including the type, in the British Museum, but I cannot find a trace of the shallow foves.

61. Potaninia collaris, Weise.

Potanima collaris, Weise, Deutsche Ent Zeitschr. 1905, p 216.

Underside fuscous, antennæ and legs black, upper surface very shining, brown. Prothorax slightly transverse, sparsely punctate, sides subparallel. Elytra finely punctate, the punctures more or

less arranged in rows Length 55 mm.

This species can be recognized by its proportionately large prothorax, which is scarcely half broader than long, with the sides almost parallel, the prothorax is rectangular in shape, being as broad at the large, almost right-angled anterior angles as at the posterior ones, and only very feebly rounded between them *. The elytra are as broad at the base as the base of the prothorax, up to the middle slightly broadened, then for a little distance almost parallel, and after that quickly narrowing, while the apex is narrowly rounded. The humerus is the same as in the other species, being sharply cut off on the inner side †.

DARJEELING (Fruhston ffer)

The above is a translation from the original description in Latin and German I have not been able to recognize this species, the type of which I have not seen But I have before me nearly 30 specimens of a Potanina from Darjeeling, which I have referred to the preceding species, P assamensis, after comparison with the type thereof, as I cannot discover any substantial difference between them I have practically no doubt in my mind that P. collaris, Weise, is a synonym of P assamensis, Baly The differences pointed out by Weise may well fall within the range of individual variation.

Genus ENTOMOSCELIS, Chevrolat.

Entomoscelis, Chevrolat, Dict Univ Hist Nat 11i, 4843, p 656, and v, 1844, p. 335

No description of this genus need be given here, nor is it included in the key of genera on pp 16-17, since, as already explained, I believe that the single Indian in sect referred to it,

† innen kraftig abgesetzt

^{*} dazmiechen nur ganz unbedeutend gerundet

E. metallica, Baly, will prove to be a synonym of Entomorchis assamensis, Baly (now known as Potaninia assamensis, see above, p. 93) It this is so, no true Entomoscells has yet been found within our geographical frontiers. As, however, for reasons explained below, I have not seen the type of E. metallica, Baly's description of that insect is here cited.

62. Entomoscelis metallica, Baly.

Entomoscelis metallica, Baly, Ent Month. Mag. xxv, 1888, p 85.

"Oblongo-ovata, valde convexa, picea, nitida, corpore superiori pedibusque cupreo nitentibus, thorace convexo, distincte sed tenniter punctato; elytris seriato-punctatis, punctis in stris mordinatis ad apicem confuse, dispositis. Long, 32-4 lin.

"Hab. SIKKIM, Teste Valley, 2000-4000 ft.

"Labrum piceo-fulvous. Thorax nearly twice as broad as long; sides nearly stiaight and parallel behind the middle, obliquely converging towards the apex anteriorly; disc convex, finely but distinctly punctured, the punctures irregularly congregated on the surface. Elytra scarcely broader than the thorax, oval, strongly convex, finely senate-punctate, the punctures placed irregularly on the strim, the latter lost before reaching the apex of the elytra

"Very similar in appearance to E. assamensis, milii (Cist Ent. ii, p. 437), separated from that species by the stronger metallic tint of the upper surface and legs, by the larger size, and by the

more regularly punctured elytra"

The type of Entomosceles metallica should be in the Indian Museum, Calcutta, where, I am given to understand, it cannot be traced. But, as stated above under Potaninia, I have before me about thirty specimens of a species from Daijeeling district which is very similar to Poteninia (Buly's Entomoscelis) assamensis, Baly, and in this long series I find that the three characters by which Buly separates his Entomoscelis metallica from his E assamensis are variable, some of the specimens are small and some attain the length of 81 mm.; some are more metallic than others, and the punctures tend to form rows, more so near the base than near the apex These characters are not incompatible with Potannia assamensis. Judging from other species of the genus Entomoscelis that I have seen in the collection of the British Museum, I believe that this genus has not yet been found within our faunistic area From these considerations I am inclined to regard Entomosceles metallica, Baly, as a synonym of Potanina assamensis, Baly.

Genus APAKSHA, nov.

Genotype, Apaksha himalayensis, sp nov.

Body ovate, constructed at the junction of the prothorax and elyma, widered in the middle and somewhat narrowed behind,

elytra convex. Head large, quadrate, as broad as the width of the front margin of the prothorax, eyes convex, antennæ fairly long, the segments moderately stout, the first two swollen. Prothorax broader than long, anterior and posterior margins almost straight, anterior lateral angles rounded, posterior more or less acute, upper surface convex Scutellum sharply triangular, broader than long. The two elytra are not joined together, but can be separated, their surface is confusedly punctate. Hind wings absent. Underside anterior coxal cavities almost closed, prosternum truncate behind, mesosternum small. The third segment of the tarsi is undivided along the middle, and the claws are not split.

Range The Himalayas at a high altitude

The name Apaksha is derived from Sanskrit, and means "without wings". This insect bears a superficial resemblance to certain members of the Central Asiatic genus Xenomela Weise.

63. Apaksha himalayensis, sp nov.

Submitid, entirely black, with legs sometimes pitchy-brown.

Head laige, broad, with the surface lugose, strongly and not

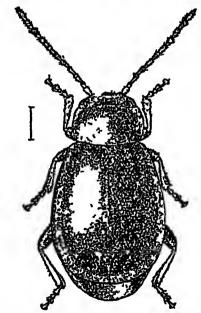


Fig 31 - Apaksha himalayonsis, Maulik, Q.

very closely punctate, in some examples there is a shallow longitudinal median depression; interantennal space with a transverse, strongly impressed line, the whole surface is spaisely covered with fine hairs. Antennæ fairly long and stout, reaching the middle of

the elytra, first segment large, thickened, second much smaller, globular, third elougate, slightly longer than fourth, fifth also slightly longer than tourth, sixth somewhat shorter than either the preceding or the following segment, the rest of the segments are almost equal, the last being pointed, the whole antenna are sparsely covered with fine haus. Prothorax broader than long, narrowed at the base, whence the sides are gradually widened to the anterior angles, which are founded, posterior angles more or less acute, anterior and posterior margins almost straight; surface uniformly convex from side to side and covered with strong punctures, which are more thinly distributed on the middle than on the lateral or basal parts Scutellum small, insignificant, sharply triangular, much broader than long. Elytic narrowed at the base, broadened and uniformly rounded in the middle, narrowed behind. surface convex and confusedly impressed with strong but small punctures, which are not closely placed, in some specimens the surface is somewhat rugose Underside punctate and sparsely covered with fine hairs, anterior coxal cavities almost closed. First segment of the tais almost as broad as the third, which is undivided longitudinally along the middle, claw-segment strong, projecting much beyond the third segment, claws not split.

In the females the abdomen projects beyond the apex of the

elytra

Length, 5-8 mm

HIMALAYAS Balphu, Gori Valley, 11,500 ft (H G Champion). Type in the British Museum. Described from 22 examples.

Subfamily HALTICINÆ.

The Halticial comprise a group of phytophagous Coleoptera popularly called "flea-beetles" owing to their extraordinary power of jumping* They can be distinguished by the following characters (1) the insects are plant-feeders both in the larval and adult stages, (2) in correlation with the jumping power of the insect the temora of the hind legs are much thickened; this character varies to a certain extent, for in some genera the thickened condition can hardly be said to be pronounced, but in all cases the hind femora are thicker than those of the first two pairs of legs, (3) the autenimance always placed between the inner margins of the eyes and never below their front or outer edges, but between the limits of the inner margins the position of the points of insertion of the antennæ varies, so that they may either

^{*} It is hardly necessary to state that, though the fica-beetles and floas noth possess this power, no close relationship between the two groups is then by indicated. Similar names for these beetles occur in at least one other Lanquan language namely German, in which they are known as 'Erdflohe' (can the floas) or "Flohkater" (flex-beetles)

be inserted close together, or may almost touch the eyes (see fig 92), (4) the anterior coxe are not conically prominent at the apex, as they are in the GALERUCINE, a group of which the HALTIOINE have nitherto formed a part.

External Form and Structure.

The members of the present subfamily are generally small in size (at least within our faunistic limits), varying from 2 inm. to 17 mm, the latter magnitude being exceptional The coloration is generally dull, very raiely bulliant or metallic The head is usually as broad as the pronotum, and sometimes has the mouthparts exserted, but taken as a whole it is not large, in form it is transverse and more or less rounded. In many of these insects the front is differentiated from the vertex by a transversely impressed line, which may be rounded or angled in the middle, the impression varying in depth. The antenna do not present a great variety of form Normally each is composed of eleven segments, in the genus Psylliodes, Latr, the number is ten, while in Nonarthsa, Baly, it is reduced to nine In another genus of CHRISOMELIDE, Plutypria, Guér., belonging to the subfamily Hispinz, the number of segments is also nine, and there it can be recognized that the last segment is formed by the fusion of Neither in Psylliodes nor in Nonasthra can any three segments such trace of the process of reduction be recognized. In a large number of cases the antennæ are somewhat thickened towards the apex, but in some forms they become slightly thinner. In length they vary, reaching in some species only to the base of the pronotum, in others as far as a little beyond the apex of the elytra, but never attaining such great length as is sometimes tound amought the GALKEUCINA. In our region no genus has yet been found with flabellate or pectinate antennæ, though such a condition does occur elsewhere among the Halfioink relative lengths of the five or six basil segments have a taxonomic value The interanteunal space is generally narrow and contains a deep longitudinal impression, on each side of which there is a longitudinal elevated ridge, which may slightly expand towards the vertex or may vary in height, etc.; these ridges are referred to in the descriptions as frontal elevations or carinæ (see fig. 62), and they have been found useful, in combination with other characters, in separating genera and species, sometimes they are The eyes are rounded, oval, and generally convex, entirely absent and are situated at points widely separated from each other, except in the genus Paradiboha, where they are closely approximated at the vertex, being only separated by a thin strip (see fig. 110) The mouth-parts consist of the pieces usually present in adult beetles, lubrum, mandibles, maxilia each with a four-segmented palp, and labium with a pan of three-segmented palpi, the relative length, ion in and thickness of the apical and penultimate segments of the mazillary palpi have afforded, in some cases, characters which have

been need in separating species. The pronotum is usually broader than long, with the surface more or less convex; a transverse depression anterior to the basal margin, bounded on each side by a short longitudinal impression (see fig. 88), has classificatory value. In the genus Laprus, Motsch, the prothorax is greatly constricted behind (see fig. 49), its shape recalling that of the genus Lema, F, belonging to the subfamily Chioclains of Chirisometics. The anterior lateral angles are often thickened, each bearing a fine seta, and are sometimes slightly expanded and sometimes distinguely truncate. In a great number of cases the posterior lateral angles also are provided each with a fine seta (see figs. 120,123). The scutchum is small but always visible, triangular or otate in shape and not very variable. The clytum are never short or reduced, as occurs in some Galerneine, they may be

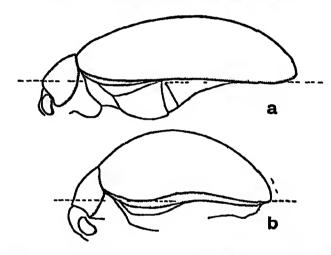


Fig 35 —Profile outline of, a, Hyphasoma submetallica, Jac, b, Orthaga viridipennis, Jac

parallel-sided, with the apex rounded or pointed, sometimes they are strongly convex, and the degree of convexity may be taken advantage of in separating genera, their surface is often confusedly punctate, and in many genera the punctures are arranged in longitudinal rows or strice, the interstices are smooth and the surface never tuberculate or rough. In most Halticial the hind wings are present under the elytra, their absence is exceptional, and in no genus known from British India has the wingless condition yet been noticed.

The underside in this subfamily offers many characters which are useful for comparative study, and hence have been frequently used in determining relationships. The episterium generally assumes a quadrangular form, being broader than long and delimiting the anterior edge of the front coval cavity, this character is employed in doubtful cases to differentiate between

the Halticing and the Eumolpinz. The prosternum itself is always more or less broad, except in one or two cases, for instance, in the Indo-Malayan genus Sphenometopa, where it is almost concealed from view, the aper of the prosternum, when it is not rounded or truncate, sends off a thin piece towards the epimeron, the inner projection of which it meets, thus closing the front coxal cavity at its posterior edge (see fig 52), this character is very useful in grouping the genera mesosternum in a large majority of HALTICINE is oblong, triangular or quadrangular, in some groups it is not visible at all. the pro- and metasterna meeting each other. The position of the hind edge of the prosternum relative to the mesosternum is of The epipleura of the elytra are generally broad taxonomic value at the base, narrowing towards the apex, in many cases they are not continued to the apex, but terminate some distance before it. sometimes the; are as broad at the base as towards the apex, while in the genus Hyphasis they attain a relatively enormous breadth (see fig 58) In correlation with the leaping habit the structure of the legs has undergone suitable modifications The hind femora are thickened and very often channelled underneath for the reception of the tibiæ when in repose, the latter are often short, since long tibis are unsuitable for jumping In some GALERUCIAE there is a distinct thickening of the hind femora, but the corresponding tibie are long and slender. The tibie are similarly channelled on the underside, and in many cases are provided with a spur or spine at the apex (see figs 48, 59), sometimes they are broadened and more or less flattened towards the apex, with a row of spines on each side. Each tartus is apparently composed of four segments, the basal one more or less triangular, the second less so, the third broad and bilobed, the fourth or claw-bearing segment long and slender, projecting much beyond the bilobed segment But these parts are sometimes greatly modified, e q the first segment may be more than half the length of the tibia, as in Longitarsus, the second segment is always shorter than the first, while the third segment, even when modified, retains to a certain extent its bilobed form The usual felt covering on the underside of the tarsi also undergoes corresponding modifications In some genera, popularly called "bladder-clawed Halticines," the claw-segment is swollen at the nex (see fig 50). The point of articulation of the taleus with the tibia is generally at the apex of the latter, but sometimes it is far away from the apex, as in the genus Psylliodes It will be noticed that all these modifications are in keeping with the type of mechanism, leverage, etc, necessary for the act of jumping The claus are strong, prominent and very often have a little projection on the underside (such clans are called appendiculate), sometimes they are bifid, and rarely sample, in the case of the "bladder-clawed Halticines" just mentioned, the claws are myssible when the tarsus is viewed un above

Notes on Lafe-histories and Larva.

Remarks on the life-histories of several species are given here, the first four species relate to India, the remainder to various other countries. Following these notes is a section containing more detailed descriptions of the larvæ of several species, and then a list of species of economic importance.

India.

Clitea meta, Baly

The following notes were made by C S Misra and T Bainbrigge Fletcher at Pusa (Agric Res Inst Pusa, Bull no 59, 1919, pp 22-23. and C F C Beeson, 'Indian Forester,' Allahabad, xiv, 1919, pp 812-323) —

The larve burrow in the midribs of leaves, tender shoots, spines, axils of branches and even occasionally in the young setting fruits, whilst the adult beetles eat holes in the leaves,

which are often badly riddled

The larva is about 8 mm long and about 1.5 mm. broad, dorsally convex and ventrally compressed, of a dull-brown or crange-yellow colour, with a flattened brownish head. Prothorax with a brownish shield medially divided. Three pairs of jointed legs. The eighth abdominal segment with a small dark patch above between the spiracles. Anal plate dark, large, somewhat concave above. Anal segment with a pair of ventral fleshy processes, which assist in locomotion. Spiracles rounded, dark immed. The larva bores longitudinally inside the twigs, etc., the bored parts swelling to some extent and the position of the burrow being marked by a transparent resinous exudation.

Pupation takes place either within the larval burrow or in the soil. In the case of some grubs kept in the Lusectary in a glass dish with about an inch of moist earth, when full-fed they left the stems and went down into the earth until they reached the bottom of the dish, where they formed rounded cocoons of earth with a smooth interior. From three glubs which went into the earth on 10th June, 1908, one beetle emerged on the 15th and two on the

16th June

Longitaisus nigi ipennis, Motsch

The following is an abstract from notes made by Mr T V. Ramakrishna Ayyar on the life-history of this beetle, published in the 'Proceedings of the Third Entomological Meeting at Pusa,'

1919, vol m, p 925 —

This insect does damage to cultivated black pepper (Piper mg um) in the pepper-growing tracts in North Malabar. The eggs are laid singly, each being carefully thrust and glued into the tissue just underneath the skin of the green pepper-beiry, usually near the attachment of the berry to the spike. Only one egg is deposited in each beiry. To find the egg one has to open the

skin of the beiry very carefully in very thin slices. The egg is ovoid in shape and measures 15 mm in length, it has a pale brownish colour. The larva is pale to cream-white in colour with the head and prothoray dark, it is comparatively short and stout

The larva feeds on the contents of two or three berries for about forty or fitty days, when it is full-fed. It then pupates by dropping down and entiting the soil to a depth of about two or three inches It builds an oval cocoon of soil The pupa is pale whitish in colour In captivity the pupal stage lasts for ten days. The adult beetle after emerging from the pupal case remains in the soil for a day or two before coming to the surface feeds voraciously on the tender pepper leaves, biting numerous little holes in them There are at least two generations in the year, one generation of beetles emerging in October and another in January At the beginning an infested beiry shows a pale, sickly yellowish coloni and a minute hole through which exciement may be seen thrown out. When the larva has almost eaten away the contents of a benry, its presence is indicated externally by a darkish colour instead of a healthy green. The presence of a group of two to four duk-coloured berries in a spike of pepper reveals the attack of the lava

Luperomorpha werser, Jac

In Angust 1900, M: W H P Driver, of Parulia, sent to the Indian Museum some Chrysomelid beetles which were reported to be destroying all his mango-trees. The original locality from which this species was first obtained is Ranchi (Indian Museum Notes, vol. v, p. 125)

Podontia quatuordecimpunctata, L

This beetle occurs in India on Spondias mangifera in the months of July and August, when the tree is in full foliage, but disappears in October (Indian Museum Notes, vol. iv, p. 68)

In the Federated Malay States it has been found on Spondias dulois, and an account of the life-instory of the insect appeared in the 'Agricultural Bulletin of the Federated Malay States,' 1921, vol ix, no 3, p 192, under the names of G II Corbett and Mohamed Yusope The following is a synopsis of this account —

The damage done is very serious, the trees being almost entirely defoliated. The eggs are laid from April to August, in batches on the underside of the leaves, particularly near the tips. The female hinlds up the cluster of eggs by arranging them in circular series, in which each egg stands perpendicular to the surface of the leaf and tonches the next one, another layer is placed on the top of this (although the air ingement of the eggs may not be so regular in this layer) and so on. The number of eggs in each mass varies from 18 to 61. The eggs are oval in shape and rounded at both ends, varying from 1.5 mm to 2 mm in length and 0.7 mm to 1 mm in breadth, at first they are bright vellow.

changing later to a dull yellowish-white. The egg-stage lasts

from 6 to 8 days.

The newly-hatched larve feed gregariously for two or three days, skeletonising the leaves, and alterwards migrating to different parts of the plant, where they commence to eat the entite leaf-substance. The newly-emerged larva is somewhat like a wood-louse in form, and is bright yellow in colour, with a black head There are six rows of black spots running longitudinally throughout the body, from each of these spots a hair Each of the thoracic segments has a pair of black legs. On the first thoracic segment is situated a black shield which has There is a jellowish pseudopod (pioten anterior projections trusible sucker) at the anal extremity, provided with projections which aid the larva to adhere to, or clasp, the leaves The full-fed larva differs from the newly-hatched larva by being giernish in coloni and larger in size, it values from 219 mm to 257 inm The anus in length, and from 75 mm, to 83 mm in breadth is situated just above the base of the protrusible sicker-foot, and by curving the terminal segment of the abdomen upwards, the large deposits its excrement on its body, whence the excrement is prevented from falling by an exudation from the body. The excieta frequently form a complete covering over the larva When disturbed the larve roll themselves up into a ball somewhat after the manner of a wood-louse. The larval stage lasts from 11 to 18 days.

When full-fed the larva generally enters the soil for pupation. Prior to its transformation, it makes an oval cocoon of particles of earth, within which it pipates. The average length of these cocoons is 18 min and the average breadth 12 mm. The depth at which the cocoons are found varies from two to six inches according to the condition of the soil. Occasionally cocoons are found underneath rubbish and pieces of wood. The pupal stage

lasts from 14 to 29 days.

The adult beetles as well as the larve avoid sunlight, and are usually found on the under surface of the leaves. They feed intermittently both by day and by night. They do not fly readily, and even when thrown into the air frequently make no attempt at flight. When disturbed on the leaves they usually drop to the ground, and for a short time feigh death. The bife of the female beetle varies between 53 to 168 days. The cycle from egg to pupal stage covers a period varying from 31 to 55 days.

England

Phylloticia nemorum, L. Turnip Flea-heat'e

The following is taken from Rev Appl Ent, ser. A, vol iv, 1916, p 108, where will be found an abstruct of an article on "Flea-beetles" in the Botanical Journal London, iv, no 4, Jin. 1916, p 49—

The adult beetles hibernate during the winter under the bank

of trees, fallen leaves, etc, emerging in early spring Pairing occurs from March to October, and the eggs are laid beneath the epidermis of charlock or other Cruciferous plants. The larve hatch in from eight to ten days, and tunnel in the mesophill. They pupate in the soil, the pupal stage lasting about two weeks. The number of generations produced in one season varies from three to six, according to weather conditions. The adults cause serious damage to root crops, young seedlings, and to the mature leaves of cabbage, horse-radish, rhubarb, etc.

Haltica oleracea, L Cabbage Flea-beetle.

The following information is taken from the same source as in the preceding case—The eggs are laid on the surface of the leat, and the larve are not leaf-miners like those of the genus Phyllotreta—Pupation takes place about two weeks after hatching There are usually five generations in the year—The adults feed upon wild and cultivated Crucifera and upon Epilobium and Enothera. In controlling this and the preceding species, it is important to keep crops free from weeds, especially Crucifera Spraying with an arsenical wash has been found useful against H. oleracea.

Russia

Aphthona euphorbia, Schrank

This is a great pest of flax in Russia N V Kurdiumov deals with it in some detail in the Pioc. Poltava Agric. Expt Sta,

no 30, 1917

The present account is taken from Rev. Appl Ent, ser A. vol. x1, 1923, p. 154 —The adults hibernate in tuif rather than under fallen leaves In the spring they migrate to flax fields. which may be some distance away, necessitating the crossing of other fields, in which case they may also be found on Sisymbi sum, Euphorbia and even the leaves of beet In the early spring they are found in fairly large numbers among the winter-sown grain crops, their numbers on these decreasing simultaneously with a relative increase of those on flax on which they appear in large numbers by the end of April and beginning of May, a period which coincides with the appearance of the seedlings above ground attack of A. suphor bice on flax at this time is greatly influenced by the prevailing temperature, should the latter favour quick and healthy growth, the flax will be able to withstand and outgrow the injury, otherwise the plants may become stunted and the crop greatly diminished Fields of widely-spaced rows are generally more likely to be attacked. As a rule only the parts of the plant above ground are injured, though on some occasions the cotyledons that have not yet appeared above the surface are attacked, and this is a most serious form of damage, it occurs in the early spring, and again when the adults enter the soil for oviposition Under experimental conditions the latter occurs at

the end of April and beginning of May. The eggs are laid in the spaces formed by the cracking of the surface layer of the soil, sometimes on the lateral roots, occasionally on the main roots, or even at a distance of 1-2 cm from them. The duration of the egg stage varied, according to the temperature, from 11 to 22 days. According to I. M. Krasilshtshik at least 283 eggs are laid by one female under natural conditions. The larvæ feed chiefly on the young rootlets, and pupate in the soil about the beginning of June. The adults emerge during July, and may be found on beet in the vicinity of flax fields, though without apparently causing any appreciable damage, whereas the leaves of Cusum avense are completely skeletonised. At the time of the flax harvest the flea-beetles disappear from the fields and evidently migrate. The duration of the egg, larval and pupal periods are, respectively, 20, 31, and 19 days, though they vary according to surrounding conditions.

North America.

Epitrix parvula, F. The Tobacco Flea-beetle

An account of this pest is given by Z. P. Metcalf and G. W. Underhill, North Carolina Agiic Expt. Sta., W. Raleigh, Bull. 239, April 1919, an abstract, from which the following is taken, appeared in Rev. Appl. Ent., ser. A, vol. viii, 1920, p. 231:—

This flea-beetle is one of the worst pests of tobacco in North Caiolina. The adults hibernate near the tobacco fields under leaves or grass or in other suitable places, emerging in the spring as soon as any food-plant is available. There are four generations a year, but the stages overlap so much that they cannot be readily distinguished. The eggs, which hatch in about a week, are laid from April to September near the suiface of the ground under the tobacco plant. The larvæ feed on the roots of the plant from May to October, and pupate in small cells just beneath the surface of the ground.

The greater part of the damage is done by the adult beetles, which eat holes in the leaves, both in the seed-beds, where it is sometimes impossible to obtain a stand of plants, and after transplanting, when the plants are sometimes killed. The inducet loss due to the subsequent weakening of the plant is still greater, but the direct loss, which alone can be accurately

measured, is more than 100 lb. an acre *

Chatochema cotypa, Horn The Desert Corn Flea-beetle.

An abstract, from which the following remarks are taken, is given in Rev Appl Eut, sei A, vol v, 1917, p 434, of an account

^{*} Since these paragraphs were in print, there has come to hand a very full account of this pest, by F S Chamberlin, J N Tembet, and A G Boving (Junia Agric Research, Washington, NNA pp 575-584, 1924). It contains descriptions and figures of all the stages of the insect, and detailed biodomical stadies.

of this insect by V L. Wildermuth, US Dept Agric, Washington, Bull no 436, Feb. 1917 —This insect occurs in the semi-ind areas of the south-western United States, where it attacks make, sugar-care, Sudan grass, wheat, barley and lucerne, its natural food-plants being apparently some of the native grasses. The larvæ attack the plants below the ground, while the adults feed upon the leaves. The eggs are laid at or near the surface of the ground, and hatch in about six days. The larval stage lasts on an average thirty-two days, the larvæ when full-fed pupating in the soil beside the roots. The pupal stage varies in length. The whole life-cycle covers a period of about seven weeks. There are three or four generations in each year. Adults libernate under rubbish, or about the base of grasses.

West Indies and Central America.

Haltica jamaicensis, Fabr

The following iemaiks are gathered from Rev. Appl Ent, ser A, vol v, 1917, p 560, where an abstract is given of an

account of the life-history of this insect -

This is the largest of the flea-beetles found in Porto Rico and is at times extremely abundant. It occurs also in Jamaica, Santo Domingo, Haiti, Costa Rica and Cuba. While the favorite foodplants are the common weeds, Jussica leptocarna, J. suffrutiosa and J. crecta, it occasionally feeds on garden beans and might become a serious pest if its food-supply should fail. The eggs, which are laid on the leaves and stems of the plant, number about 520 for each female. They hatch in four to six days, and the young larvæ feed on the foliage, descending to the soil to pupate after the second moult. The prepupal and pupal stages together occupy 11 days, the whole life-cycle requiring 39 days.

Structure of the Lurva.

Longitar sus ochroleucus, Marsh

This description is taken from two specimens preserved in alcohol in the collection of the British Museum. They were collected by Mr. H. W. Miles at Kerton, Lincolnshire, on \$1 January, 1924. The large is very narrow and elongate in form, measuring 4½ mm in length in alcohol, and 7 mm after the specimen is cleared by boiling in potash. It is uniformly creamy-white in colour, except the mouth-parts, which, being highly chitimised, are brown. The segments of the body are not well marked, but the small narrow head, the three thoracic segments each bearing a pair of very small legs, and nine abdominal segments can be distinguished. The head is longer than broad and is formed by a chitimised plate, which bends over ventrally on either side, the time ventral surface consists of membrane joining the sinnous edges of the bent chitimised plate. There is a median chitimised support. The mandibles are situated at the

apex, and each has four toeth. The structures that are visible in the present preparation are shown in the figure. At the end of the body there is a ventral process which is probably used in locomotion.

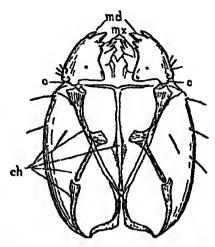


Fig 36—Longitarous ochroleucus, Marsh head of larva from above, c, condyles of mandibles, ch, chutanous supports of head, md, mandibles, mx, maxilæ

Haltıca ampelophaga, Guér.

The following description is drawn up from four examples (Lugano, Switzerland, on hazel, K. G. Blan) preserved in alcohol in the British Museum —The length varies from 5\frac{3}{4} to 6\frac{1}{2} \text{ imm}

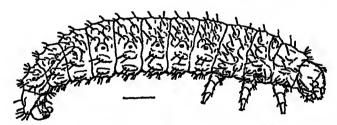


Fig 37—Haltica ampelophaga, Guér Lateral view of larva (A part of the interine, which was visible in the cleared specimen at the hind end of the body, is shown)

The colour of the specimens in alcohol is dark brown, the underside being lighter and the head and pirts of the legs blackish. The body is slightly bent and somewhat manowed behind, and consists of thirteen segments, including the head, the three thoracic and nine abdominal segments. The head is toined of a strongly chitimised, haid capsule, narrower than the protocoax, quadrate with front well rounded, viewed from above slightly

depressed on the vertex, sloping in front, and with the upper surface sparsely covered with stiff brownish hairs, antenias minute, three-segmented, labrum distinct mandibles four-toothed. The prothers is breader than the head, its dorsal surface covered with a strongly chitmised transverse plate. The meso- and metathoracic segments are alike, the latter being very slightly broader than the former. There are three pairs of well-developed and strongly chitmised thoracic legs; each leg consists of three

segments and ends in a minute but strong clau

The dorsal and ventral surfaces of the body of the larva bear several longitudinal series of spots and patches arranged as follows as seen from above there are five longitudinal rows, one median and two on each side; the median row consists of short, transversely elongate patches, there being on each segment two, of which the posterior is smuller than the anterior, the inner and outer dorsolateral rows are composed of round spots, in the inner dorsolateral rows these are airanged somewhat mregularly, the posterior spot on each segment being placed nearer the middle line than the anterior one, while in the outer dorsolateral rows the two spots on each segment are placed one behind the other in a longitudinal series Thus on the dorsal surface of each segment of the body (except the prothonacic and the anal) there are ten patches, the two transverse median ones and eight round ones placed tour on each sule Viewed from beneath each segment (except the anal) is somewhat produced contally on each side, with the apex of the cone truncate and ending in a patch, these patches form on either side of the body the lateral longitudinal series Finally, on the ventral surface there are five longitudinal rows of patches, the median being composed of a single short, transversely elongate patch on each segment, while the onter series are made up of round spots, regularly arranged, a single spot of each inner and each onter ventiolateral series on either side of every segment; the spots of the outer ventrolateral rows are placed on the upices of slight conical elevations. On the ventral surface, therefore, there are, in each segment, five putches All the patches, dorsal, ventral and lateral, are only strongly chitinused areas, bearing fine brownish hairs which give the larva the appearance of being sparsely pilose There are nine pairs of spiracles, one thoracic and eight abdominal Those of the thoracic Each abdominal pair are situated laterally on the mesothorax. spiracle is placed laterally between the two spois, on each segment, of the outer dorsolateral longitudinal series spiracles are larger than the abdominal The minth and anal segments have no spiracles

Sphenoderma testucea, Fabr.

The following description is taken from two examples in the British Museum preserved in alcohol, one of which is 5½ inm long and the other 5 inm.—The large is elongate and consists of thirteen segments including the head, the three thorauc, and

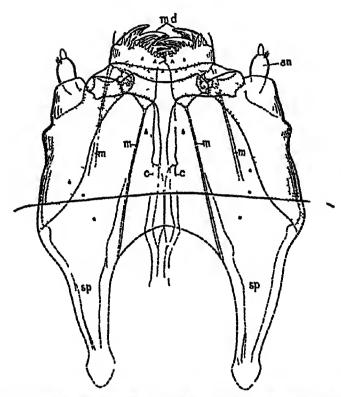


Fig 38—Sphæroderma testacea, F Head of larva, dorsal view. the part below the horizontal black line is inserted into the body, an, antenna, c chitinous supports of head, m, muscular bands controlling mandibles, sp, longitudinal spurs inserted into thorax

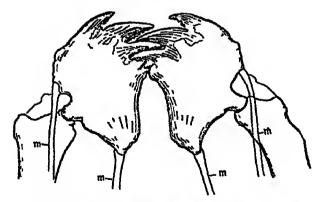


Fig 39 — Sphærodeima testacea, F Unluiged and dispersion of mandibles of Luna, m, muscular binds

nine abdominal segments All of them except the head and the anal segment are almost of equal breadth. The head is (as seen m an uncleared specimen) much narrower than the first thoracic segment, strongly chitimised and quadrate, in a cleared specimen t is seen to be inserted in the first thoracic segment and to be apported by two long, narrowed spurs, between which is enclosed r deep such torming the posterior margin of the imbedded portion of the head at the apex of the arch are three strongly chitamsed ridges, one median and longitudinal and the other two placed obliquely on either side of it and tending to meet in front, on either side of this system is seen a sinuous line which forms the internal boundary on the strongly clutinised lateral part of the The auteums are situated at the lateral angles of the anterior margin of the head, each consisting of three segments: namely, a large basal, a more or less ovate median, and a small conteal apical segment The mandibles are large, occupying the middle portion of the front margin of the head, each has three distinct teeth, bent inwards, the inner margin of each tooth being seriated on the dorsal and ventral sides of the mandibles respectively. The front margin of the prothoracic segment is straight and its sides lounded. The mesotholax is larger, with sides broadly rounded The metathorux is similar to the mesothorux There are six well-developed logs, each consisting of three segments, the last ending in a minute single claw Each abdominal segment is much broader than long, with a more or less conical but rounded protuberance on either side, on the ventral side it has a fleshy excrescence of the same form as the segment itself but smaller in size The anal segment is narrower, rounded and without lateral protuberances, with the anus situated on the ventral side

In a cleared specimen the larval skin, under a high power, is seen to possess a beautiful pattern of reticulated sculpturing. I am unable to discern the spiracles in the material. The larva were found by Mr. K. G. Blair at Midhurst, Susser, 2 x 1918, in galleries in leaves of *Centaurea*. A tew adult beetles were also found on the plants. The larvae were killed and preserved 25 x 1918.

Economic Importance

The flea-beetles are to be regarded as enemies of mankind, for a large number of them attack crops and cultivated plants, as the tollowing list will show. The list includes also some non-cultivated plants

Podagnica malver, Ill Cinnea Alchea officinalis (marsh-mallow), A rosea (holly-hock) and medicinal plants

Nisotra uniforma, Jac S Nigeria Cotton Clitea picta, Balv India Eglemainelos (Indian name, Bael) Unipelodora helaines L Canada Willow Cremdodera cyanescens, Duft Russia Aconite.

alpuola, Ulr. Russia Aconite.

ufipes, L Kentucky, USA.; Europe Leaves 22 of peach trees; peas.
amata, Maish England and Continental Europe

99

Willow

erythropus, Melsh North America. Peach trees. 99 costatipennis, Jac Cameroons Cacao

Epitiv subcrinita, Lec British Columbia Tomatoes, potatoes. tuscula, Cr. Concord, U.S.A. Potatoes

cucuments, Harr North America Potatoes, tomatoes, ingiocenea, Harr South America Leaves of potatoes.

•• parvulu, F. USA (Virginia, North Carolina, Florida,

etc) Tobacco

77

• 9

.

Systena blanda, Melsh. North America Melon, potato, carrot, beet, clover, etc.

tomata, Say Viiginia Vegetables generally, par-

ticularly maize.

marginalis, Ill North America Forest and shade trees

frontales, F Toronto, Canada Potato, beans, young grapes, asters, chrysanthemums

hudsomas, Forst North America. Sugar-beet, potato, maire, beans

engstron, Suhlberg N Russia, Finland, Sweden. Haltica Leaves of Spinea ulmariu.

ampelophaga, Guei France, Spain. Grape-vine ••

cruce, [? F] Holland, Russia Oak, climbing 10ses, 22 strawberries

Flax * suphorbice, F. European Russia

European Russin, England. Cabbages. oleracea L 99 vines, rape *

bimai ginata, Say. Maine, USA. Capada Alder. foliacer, Lec Arizona, USA Foliage of apple and grape.

chalyhea, Ill Ontario, Canada Grape-vine.

ignita, Iil Canada Strawberry 92

probata, Fall Butish Columbia to California Wild rose, strawberry

carmata, Germ South California Giape-vine, and a native plant, Enother a (Pachylophus) eximius (Desert Primrose), a weed of vineyards.

^{*} Professor N M Kulagin, recording insects injurious to cultivated food-plints in European Russia in 1914 (Bulletius of the Moscow Entomological Surety, 1, pp 136-161, Nov 1915), includes Haltica emphorbia, R, as a pest without actually mentioning the food-plant, but gives as the Russian name of the in-ect the equivalent of "Fi is fier-beetle". He also mentions Polygonum actuality, L, Epilobrum angustifolium L, Enothera bicinus, L, and Rumer mentus, Ir, as food-plants of Hullica oleraica L

Haltua	corn, Woods Maine, U.S.A Dog-wood
••	conn., Woods Maine, U.S.A. Dog-wood vosc, Woods Maine, U.S.A. Wild rose ulius, Woods Maine, U.S.A. Elin.
• • • • • • • • • • • • • • • • • • • •	ulmi, Woods Maine, USA Elin.
,	torquata, Lec Maine, USA Blueberry
31	pagana Australia Strawberry
	ha glabrata, F USA Amaranthus spp
"	maritima, Mann. California Sugai-beet
"	varicornis, Horn. North America Opuntia lepta
"	caulus
	ranthomelæna, Dalm North America Spinach.
22	trungularis, Say North America Beet
>>	well-colles Say North America Rout
"	mellicollis, Say North America Beet caroliniana, F North America Beet Levigata, Jac Jinnaica Maize
12	Lemanta Jac Jungson Marca
22	quinquevituta, Say Nova Scotia Solidago squar
"	rosa.
Towards	sus parvulus, Payk Ireland Flax
•	ate, Leesb Ireland Flax
99	nayi upennis, Motsch India Pepper
1 27. 17.00	na flaviceps, All Poltava, Russia Flav
22	euphorbie, Schrink Poltura, Russia Flax.
T	nonstriata, Goeze Russin Leaves of iris
Lujieioi	noi pha werser, Jacoby Bengal Mango
Phytion	reta pusilla, Horn USA Cabbage, radish
>>	nemorum, L Germany, England, Russia Sov
	bean, turnip, hops, peas, vetches, hemp.
22	sinuata, Steph Canada Cress, radish, turmp
	enbluge
37	vittate, F U.S A Radish, turnip
22	atia, F Denmark, Russia Turnip, hemp
77	schremen, Jakobson Astrachan, Russia Mustard
12	affines, Pavk Ireland Potato
79	mquipes, F Piussia, Sweden Peas, vetches, cab-
	þ igres
ĄI	cincifera, Goeze Piussia Pens, vetches
22	undulata, Kutsch. Prussia, Russia Peas, vetches,
	cabbages
"	armoracia, Koch Russin, Canada Horse-radish
	(Cochleanu) and other cruciterous plants of
	economic importance
22	vittilu, Redt Denmark, England, Russia Spring
	coin, mai/e
27	(2) simuata Redt Formosa Mulberry tice
Cheetoca	iema kortensis, Geoffi European Russia Hemp.
	cereals
22	(Plectrosceles) le evruscula, Fald Russia Ears of
••	wheat, cercals
99	concurred Chevi (Maish) Russia, helind,
77	Sweden Hops, vorug mangold-wurzel (Beta',
	i hubai b

Chatocnema apruaria, Suffi Jamaica, Porto Rico Sweet potato, tomato

,, confines, Lec (Crotch) Virginia, U.S A. Maize.

" pulcaria, Melsh Virginia, USA Maize.

,, denticulata, Ill Virginia, U.S A. Maize

,, aridulu, Gyll France, Russia Oats and other grain crops

,, amazona Barbados. Sweet potato

.. basales, Baly. India Rice

,, ectypa, Horn USA Sudan grass, desert corn.

" tibialis, Illig France Beet

,, pusaensis, Maulik India Boring stems of millet (Panicum miliaceum)

concumpenme, Baly. India Boring stems of

seedling paddy (Oryza)

Blepharida rhois, Forst Virginia, USA. Sumac (Rhus).

Podontia quatuordecimpunctata, L India. Spondias mangifera
and Frous elastica

,, quatuordecumpunctata, L. Kuala Lumpur, F.M S.
Spondias dulcis

Argopistis olea, Bryant Cape Province, South Africa Mining in leaves of olive trees

,, sexuttatus, Bryant. Cape Province, South Africa.
Mining in leaves of olive trees.

Argopus ahrensi, Germ Europe Artichoke.

Cercyonia citri, Bryant Gold Coast Young citrus plants.

Zomba gossypu, Bryant Nyasaland Cotton.

Psylludes punctulata, Melsh. US.A., Canada, Vancouver.

Hops, clover, tomatoes and other farm crops,
also nettles and chickweed

ch: yeocephala, L Germany, Bessarabia, Sweden, France Soy bean, rape, cabbage, radish

attenuata, Koch. Bohemia, Russia Hemp, hops

., affinis, Payk Europe. Solanace: Lycium, Hyoscyamus, Atropa and various species of Solanum

napi, F. Russia Peas, vetches and Crucifera

,, picina, Marsh Kiev, Russia Cereals, barley

In arranging the genera of HALTICINE from the countries under review no attempt has been made to follow a phylogenetic order, because the data at present available are not sufficient for the discovery of the true inter-relationships of the genera. The latter have been arranged in such a way that the collector in India can identify his catch with the least possible difficulty.

Key to the primary Sections

Antennæ mne-segmented Antennæ ten-segmented Antennæ eleven-segmented Section II, p 114 Section III, p 124 Section III, p 130

Section I Antennæ nine-segmented)

This section contains only one genus

Genus NONARTHRA, Baly

Nonarthra, Baly, Journ of Entomology, 1, 1862, p 455 Enneamera, Harold, Col Heft xiii, 1876, p 185

GINOTIPE, Nonarthia variabilis, Baly (Northern India), by Baly's own designation

Body rounded-ovate, sometimes more elongate, narrowing behind Head broad but narrower than the width of the prothorax, exserted Antennæ nine-segmented, situated nearer to the eyes than to each other, first segment long, second about half the length of the first and shorter than the third, from the fourth



Fig. 40 -Nonarthra variabilis, Baly, nind tibis and tarsus

onwards all the segments except the last are dilated, sometimes compressed, and triangularly produced on the inner side, this character being more accentuated in some species than in others. Interocular and interantennal spaces smooth and more or less flat, the latter sometimes with a longitudinal median impression, either side of which is slightly elevated. Eyes strongly convex Prothorax broader than long, narrowed in front, longer in the median longitudinal line than at the sides, front margin almost straight, hind margin forming an uniform arch the ends of which are directed forwards, sides almost straight and oblique, marrowly

margined, anterior and posterior angles more or less right angles. rounded, and often bearing a fine seta, upper surface convex. smooth, almost impunctate or very minutely and sparsely punctate, as can be seen under a high power in a suitable light triangular Elutra slightly broader at the base than the prothorax. surface smooth, very initutely punctate, and sometimes more closely so than the surface of the pronotum, the punctuation is generally of a mixed character, extremely fine and comparatively stronger punctures of varying degrees of closeness being observable. in some cases the background of extremely fine punctures is conspicuous; lateral margins sometimes slightly explanate before the middle Underside the hind femora have a deep channel for the reception of the tibiæ on their lower surface, posterior tibiæ somewhat broader towards the apex, with dorsal surface flattened and furnished on the outer side to a certain distance from the apex with a series of minute spinules, generally of a darker colour. while on the inner side there are only fine hairs; the point of insertion of the tarsus is not at the apex of the tibia, but a little distance before the apex, which is rounded and also set with minute spinules; first segment of the tarsus about as long as, or somewhat longer than, the remaining segments, the claw-segment being fairly long, claws appendiculate

In some species the coloration varies considerably; this is especially the case in those that have transverse coloured bands across the elytra, while in species originally unicolorous such

variation is not noticeable

Range. India, Ceylon, Borneo, Sumatra, Philippine Is, Celebi Japan, Australia.

Baly first introduced the name Nonarthra in 1862 Harold in 1875 changed it to Enneamera, on the ground that Baly's name was inadmissible because etymologically it is a hybrid. According to the rules Harold had no right to change the original name except for reasons falling under the law of priority, however incorrect or unfortunate the name may otherwise be. I therefore adhere to the original name Nonarthra.

Key to the Species

		-00	
1	Body blue or violet-blue above and		•
	black or piceous on the underside	2	
_	Body not so coloured	4	
2	Body longer, 4-5 mm long	3	
	Body shorter, 8½ mm long	N	dhumala, sp n, p. 121.
3	Elytra more strongly punctate	N	birmanica, Jac, p 122.
	Elytra faintly and finely punctate	N	dakshua, sp n, p 121.
4	Surface of elytra very minutely and		, -, -, p
	closely punctate (these minute punct-		
	ures more accentuated in some species		
	than in others), and with larger.		

coarser punctures, length 51 mm

N patkasa, sp n, p 119

Body smaller and without distinct ely tral punctuation of the type described

5 Pronotum impunctate

Pronotum distinctly punctate

6 Head with a black spot above the eyes, elytra with a basal black band, considerably widening at the suture (see fuller colour diagnosis)

Head with a black spot on the vertex, elytra with the whole of the basal area occupied by a large, triangular, reddish patch, and each elytion with a post-median, reddish-piceous, trans-

verse band

7 Fourth to eighth autennal segments broadly flattened or transverse, head entirely black, elytra piceous with lateral and apical margins broadly fulvous, length 5 mm

Fourth to eighth antennul segments thickened, but the flattening is not accentuated, coloration very variable

N apicatis, Jac, p 123

N ceylonensis, Jac, p 123

p 122 N limbutipennis, Jac,

N variabilis, Balv, p 116

64 Nonarthra variabilis, Baly

1892, p 424

Nonarthra variabilis, Baly, Journ of Ent 1, 1802, p 456, 1d, Oist Ent 11, 1878, p 376, Duvivier, Ann Soc Ent Belg xxxvi, 1892, p 428 Enneamera scutellatu, Tacoby, Mem Soc Ent Belg vii, 1900, p 126 Nonasthra albofasciata, Duviviei, Ann Soc Ent Belg xxxvi,

This species is extremely variable in coloration, but fairly The ground-colour is pale constant in structural characters vellow or yellow-brown, and the variation consists in the extent to which black is distributed over the various parts of the body The head may be completely or partly black; when it is yellowbrown there are usually two round black spots on the vertex four basal segments of the antennæ are usually yellow-brown and never wholly black, sometimes the upper surface only is black, the five apical segments are usually durk and never entirely brown, only the black colour varies in intensity. The prothorax may be light yellow, red-brown, or black, in the latter case sometimes the edges are tautly yellow The scutellum is generally black, sometimes red-brown or lighter The elytra imay be entirely vellou, red-brown, or black, otherwise they have two black transverse bands alternating with vellow ones, the length of these hands varies considerably, and the basal black band very otten does not reach the side margins of the elytra, sometimes three shades of colour, viz pale yellow, black, and red-brown, are at once present on the elytra; the basal black band is in some examples prolonged trangularly along the suture to meet the

median band, in several specimens there is only a round sutural patch in the apical area and the edges of the elytia at the apex, and for a short distance forwards along the sides, are stained black. In some examples the elytra are almost entirely black, but exhibit obscure, dark red, transverse bands, this condition is probably transitional between the banded and the unicolorous black phases. The legs, except the apices of the femora, are trequently yellow-brown, while the rest of the under surface is black, sometimes the legs are entirely black, in many cases the hind tibue are smoky, but the teeth on their outer edge are always darker. Any combination of the black markings described above is possible. The size of the insects also varies to some extent. Since in some individuals the scutellium is black, while

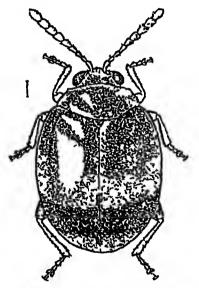


Fig 41 - Aonarthia canabilis, Baly

the rest of the upper surface is entirely red-brown, Jacoby called this form a new species (Enneamer a scrittlata), but I consider it a variety of N variabilis, though perhaps a more definite and stable variety than some of the others which occur. In proposing the species albofasciata, Duvivier writes that this form looks slightly more elongate and larger and that he considers it to be a distinct species, but he ends his short description by expressing the doubt that the insect may after all be only a variety of N variabilis. Duvivier also attempted to classify the varieties but I think that, while it is possible to catalogue all the different combinations of vellow and black markings found in this insect, no useful purpose is served by doing so. In making the above remarks I have before see about 120 examples, which show the high degree of variability of this species.

Duvivier doubtfully identified an example from Kuiseong, taken by P Braet, as Nonarthia nigriceps, Weise, a Chinese species but in my opinion the Kurseong specimen may well belong to one of

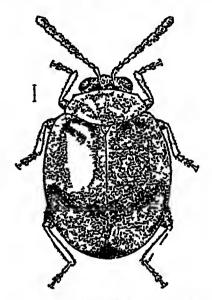


Fig 42 - Nonasthra variabiles, Baly

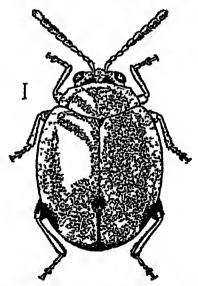


Fig 43 -Nonarthra variables, Baly

the varieties of the present species. Moreover, the latter may range beyond the limits of India, and the Chinese species may possibly be identical with N. variabiles.

The structural characters are as stated in the generic description. The thickness of the five apical segments of the antenna may vary to a certain extent, the compression and consequent inner expansion being more pronounced in some examples than in others. The pronotal and elytral punctures are more visible in some specimens than in others, and sometimes this is due to the fact that the punctures on the lighter portions of the surface have dark centres; the punctures, though fine, are always visible under a high power, when the insect is held at a suitable angle.

Length, 3-41 mm

UNITED PROVINCES Bankhet, vi-vin. 1916; West Almora. Kumaon, Sunderdhunga Valley, 8000-12,000 it, Naim Tal, ix. 1917, Dudhatoh, 6000-10,000 it, S Garhwal, 6500 ft, Haldwam, Khaula, 4500 ft, (collected from all these localities by H G. Champion), Almora District, Chaubattia, 6000-7000 ft, 1920 (S. R. Archer) Sikkim Kalimpong, Darjeeling, 4500 ft, 24 iv-10 v 1915 (F. H Gravely, Indian Museum); Darjeeling, 6000 ft, 2 x.1908, by sweeping grass and low herbage (Brunetti, Indian Museum), Gopaldhara, 3400-4700 ft., 3 x 1914 (H Stevens), Rungbong Valley, vi 1912 (W. K Webb), Kurseong, etc., many specimens in the collection of the late Mous J. Achard. Simla Hills Theog, 8000 ft, 13 v 1909 (Annandale, Indian Museum). Assam Shillong (F. W Champion)

Types of variabilis, Buly, and of scutellata, Jacoby, in the British Museum There are examples of albefasciata, Duviv, in the

Brussels Museum

65. Nonarthra patkaza, sp. nov

Body broad and large. Colour yellow-brown; the four apical segments of the antenne, the head and the apex of the femora of the hind legs, with the teeth on the edge of the hind tibies, black; the fourth segment of the antenne fuscous; palpi and mandibles dark brown

Head broad, interocular space slightly depressed in the middle and very finely punctate, interastennal space wide and similarly Labrum and mouth-parts with long bristly hairs Antennæ short, hardly reaching the base of the pronotum, the three basal segments yellow, with fine hairs, first segment long and club-shaped, almost as long as third, second shorter, fourth to eighth flattened and triangularly produced on the inner side. the fourth smaller than the fitth, which is again smaller than the sixth, the latter and the following two almost equal to each other. math smaller, flattened but not triangularly produced inwardly. Prothoraw formed as stated under the description of the genus, the base being slightly sinuate at each side, and the posterior angles more rounded than the anterior, its dorsal surface transversely convex and, seen under a high power, extremely minutely and finely punctate Scutellum sharply triangular and impunctate. Elytra almost as broad at the base as the prothorax; their whole surface is entirely covered with two kinds of punctures, (1) a background of minute and shallow pits, very closely and uniformly distributed, and (11) the ordinary punctures, which are more or less close together, each one having a dark centre Underede with

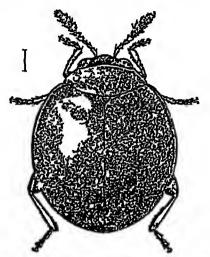


Fig 44 -Nonarthra patkata, Maulik



Fig 45 —Nonarth: a patakea, Maulik Antenna, showing the angular expansions on the inner side of segments 4 to 8

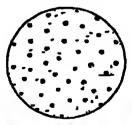


Fig 46 —Nonarthra patkata, Maulik, optical section of surface of elytra, to show the two kinds of elytral punctures

fine light brown hairs more or less closely distributed. Other structures as stated under the generic description, the hind femora being very strongly dilated.

Length, 5½ mm, breadth, 3½ mm
Assam Patka Mts (Doherty)
Type in the British Museum. Described from two examples

66. Nonarthra dhumala *, sp nov

Body oblong. Colour above blue-black underside black, the

three basal segments of the antennæ pitch-brown.

Head with vertex smooth and impunctate, interocular and interantennal spaces without any depression at all. The antennæ pass a little distance beyond the base of the pronotum, the three basal segments are as usual, the next five segments flattened and expanded on the inner side, the ninth flattened but rounded Prothorax as is normal in the genus, upper surface smooth and with fine punctures, which can be seen only under a high power and in a suitable light Scutellum of the form usual in the genus Elytra as broad at the base as the base of the prothorax, their surface is completely covered with coarser and finer punctures, the middle in some examples being rough, and the distribution of the punctuation varying to a certain extent Underside covered with fine hairs in the normal manner

Length, 31 mm

Tenasserim Tavoy (Dohenty). Andaman Islands (Captain Wimberley) Nilgiri Hills (H. L. Andrewes).

Type in the British Museum Described from eight examples

67 Nonarthra dakshina +, sp nov.

Body elongate-oblong. Colour of upper side blue tinged with purple, the three basal segments of the antennæ pitch-brown, the remaining antennal segments and the whole of the underside of

the body black

Head vertex somewhat convex, the rest of its surface as in Antennæ comparatively longer than in N birmanica, passing to a certain extent beyond the base of the pronotum, the three basal segments rounded in section, the first being long and club-shaped, fourth to eighth flattened, successively increasing m size, not so much produced inwardly as in N. patkara, last segment flattened, but not produced inwardly at all Prothorax shaped as described under the genus, the punctuation of its upper surface almost invisible unless seen in a suitable light Scutellum sharply triaugular, with the surface impunctate Elytra almost as broad at the base as the prothorax. Interal margins somewhat explanate, surface confusedly punctate with punctures of two sizes, some much finer and others larger, but the punctuation is sparser and less strong than in N bis manica Under sule closely covered with hair

^{*} Sanskrit, "smoly" or "purple' † Sanskrit, "South"

Length, 41 min

South India Mahe, Malabar coast. Travancore (G S Imray)

Type in the British Museum Described from three examples

68 Nonarthra birmanica, Jacoby.

Enneamera birman·ca, Jac, Ann Mus Civ Genova, xxxii, 1892, p 935

Colour above violaceous-blue, antennæ black with the three basal segments obscure piceous, labrum, underside and legs, black

Head impunctate; antennæ very short, the fourth and the following segments broadly dilated and depressed Prothorax twice as broad as long, the sides perfectly straight, strongly narrowed in front, the surface not visibly punctate Elytra widehed towards the middle, very closely and finely punctate, but more strongly so than in N dakshina Closely allied to N sumatrensis, Hai, N cyanai, Baly and N nigriceps, Weise, but probably distinct from any of these; it differs from N sumatrensis in the almost entirely black antennæ, the violaceous-blue colour of the upper side and the very close punctuation of the elytra, while from the other species it is distinguished by the colour of the legs and underside

Length, 5 mm.

BURMA . Palon, September (L Fea)

Type in the Genoa Museum. I have not seen the type of this species

69 Nonarthra limbatipennis, Jacoby

Enneamera limbatipennis Jac, Ann Mus Civ Genova, xxxii, 1892, p 935

Body broadly rounded. Colour testaceous, head, antenna (except the three basal segments and part of the fourth segment, which are fulvous) and apex of posterior femoia, black, elytra

piceous, with lateral and apical margins broadly full ous

Head very minutely punctate, depressed between the eyes; antennæ very short, with the apical six segments broadly flattened and dilated Prothorax transverse, widened at the middle†, its sides straight, strongly narrowed in front, surface impressed with very minute punctures. Elytia with punctuation like that of the prothorax

Length, 5 mm

BURMA Palon, September (L Fea)

Type in the Genoa Museum. I have not seen this species

* Jacoby wrote 'cærulea, Baly," but probably intended to write 'cyanea," since Balv does not appear ever to have published any species of this genus under the name cærulea

† Evidently Jacoby means that the pronotum is longest along the middle

l ongitudinal line

70 Nonarthra apicalis, Jacoby

Enneamera apicalis, Jac, Ann Mus Civ Genova, xxvii, 1889, p 200.

Colour pale testaceous, head fulvous, with a black triangular spot above the eyes, antennæ dark tulvous, with the three basal segments somewhat lighter and shining; scutellum obscure tulvous; elytra testaceous, with a transverse basal black band, which is considerably widered at the suture and connected with a small black streak placed on the shoulder; also with a narrow transverse band near the apex, bounding the apical rufous area in tront, while two black spots, almost joined together, are situated across the middle of the elytra, underside and legs tulvous, with the sides of the breast and bases of the femora black. In one varietal form the elytra are entirely testaceous without spots

Head impunctate, antennæ with the three basal segments shining, the rest transverse and pubescent Prothorax transverse, widened at the middle , the sides nearly straight, the anterior margin slightly, and the posterior strongly, produced in the middle, the surface impunctate Elytra convex, rounded, very

finely and minutely punctate

Length. 33 mm

BURMA. Schwegoo, z 1855 (L Fea)

Type in the Genoa Museum I have not seen this species

71. Nonarthra ceylonensis, Jacoby.

Enneamer a ceylonensis, Jac, Proc Zoul Soc Lond 1887, p 84

Colour testaceous, a spot or patch on the vertex of the head, and the scutellum, black, labrum piceous, antennæ entirely brownish, though the three or four basal segments are distinctly much lighter than the rest, a large triangular patch on the basal area of the elytra, and a post-median transverse narrow band on each elytron, reddish, the band being more piceous than reddish, this reddish colour sometimes spreads over the whole elytral surface, while in one specimen the post-median band on each

elytron is divided into two small spots

Head broader than long, impunctate Antennæ with the first segment comparatively long, the second shorter than either the first or the third, from the fourth to the eighth the segments are distinctly triangularly dilated; the minth is flattened as usual, but not dilated like the preceding segments. Prothoras broader than long, basal margin widely siched, sides straight, interior and posterior angles almost right angles, and rounded, upper surface uniformly convex from side to side and impunctate Scutellum triangular, with the smiace impunctate Elytra hardly broader at the base than the prothorax, the surface very convex, entirely

smooth and sparsely and extremely minutely punctate, the punctures being scarcely visible under a low power. Structures of the underside as stated under the description of the genus

Length, 4 mm CELLON Type in the British Museum

Section II (Antennæ ten-segmented)

This section contains only one genus

Genus PSYLLIODES, Latrelle.

Psylliodes, Latr, Cuvier's Règne Amm, 2 ed, 1, 1829, p 154, Chap, Gen Col, xi, 1875, p 140

GLEGITTE I select Chrysomela chrysocephala, L (Europe), the first of the five species mentioned by Latreille when electing the genus

Small insects, with body oblong-ovate, narrowed behind and in front Head rounded, inclined forward, interceular and interantennal spaces generally smooth, but sometimes with a carma,

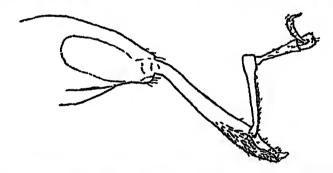


Fig 47 — Psylliodes tenebrosus, Jac Lateral view of part of hind femur, tibin and tarsus, showing the point of insertion of the tarsus in the tibin

Antenna composed of ten segments, generally thin, moderately long, extending to the middle of the elytra, then roots are nearer to the eyes than to each other, basal segments elongate, slender, their relative lengths varying, apical segments slightly thickened, the last segment pointed Prothona broader than long, usually somewhat narrowed in front, anterior margin straight, lateral margins feebly rounded, sides declivous, surface convex and generally punctate Scutellum small, almost an equilateral transfer Elytia oblong-ovate, narrowed behind, somewhat broader at the base than the prothorax, very regularly punctate-striate,

the scutellar row of punctures generally long, the interstices sometimes raised, usually flat, and bearing very fine and feebly impressed punctures, which are often irregularly arranged in longitudinal rows. Underside anterior coxal cavities open behind, front and middle legs comparatively thin, hind femora considerably thickened, channelled on the underside for the reception of the tibile, the latter broadened towards the apex and channelled above, the sides of the channel being set with sharp spinules and somewhat sinulate, and generally ending in two sharp teeth, the hind tarsus is inserted at a point considerably before the apex of the tibia, its first segment is very elongate and slender, the second similar but somewhat shorter, the third bilobed, the fourth ending in simple claws

This is a homogeneous genus, easily recognised by the tensegmented antennæ and the characteristic structure of the hind tribæ and tarsi

Range World-wide

Key to the Species

1 Colour pale testaceous, with the upper side submeeous, margins of elytra slightly fuscous No such combination of colours, margins of elytra not fuscous

2 Frontal carina in the interantennal space

sharp

Frontal carma absent

S Interstices between the rows of punctures on the elytra not costate at all Interstices costate, at least towards the apex

Interstices costate throughout

4 Body blue, without brassy tinge, broader at the middle, the feeble interstitial punctures less numerous

Body black, with brassy sheen, narrower, the feeble interstitial punctures more numerous

2

Ps varidana, Motsch,
3

[p 126.

Ps patteola, Motsch.

[p 125

Ps. biettinghami, Bali, Ps. shira, sp n, p 128

Ps plana, sp n, p 128

Ps tenebrosus, Jac,

72 Psylliodes palleola, Motschulsky

Psylmodes palleola, Motsch, Bull Soc Nat Moscou, xxxxx, 1866, part 1, no 11, p 418

In form resembling [the European] Ps luteola, Muller, but a little smaller Oblong, subconvex, shining, punctate, colour pale testaceous, upper side shining submineous, eyes black, pronotum punctate, elvira deeply punctate-striate, margins slightly fuscous.

Length, 17 mm, headth, 17 mm CELLON mountains of Nuwara Eliya.

I have not seen the type The above description is a translation from the original Latin

1.26

73 Psylliodes viridana, Motschulsky

Psylhodes viridana, Motsch, Etud Ent vii, 1858, p 108

Elongate-ovate, convex, shining, punctate, upper side more or less blackish-green, underside and the seven apical segments of the antennæ, black, their base, the tront and middle legs and the hind tarsi, testaceous, hind femora and hind tibiæ more or less

piceous

Head oblong, with front punctate, interastennal space carinate. eyes large but scarcely prominent. Protho ax transverse, subconical, very much punctate, with base margined, subimpressed on each side, somewhat arched in the middle, sides almost straight, anterior angles somewhat produced dentiform, posterior angles acuminate Scutellum triangulai Elytra scarcely broader at the base than the prothorax, elongate-ovate, punctatestriate, the strike being arranged somewhat obliquely, each interstice with finer punctures which are arranged in a row Body punctate beneath, deeply and accuately strigose under the

Length, a little more than 21 inm, breadth 11 mm

Very near to our [European] Ps attenuata, Ill, which it resembles in size, form and colour, but it has the antennæ thicker and the segments very black towards the extremity, the frontal carina sharper and strigosities in the form of a rasp on each side of the mesothorax, under the posterior temora. This part is simply nunctate in our European species, does the special sculpturation in Ps viridana constitute a sound-producing apparatus?

CEYLON mountains of Nuwara Eliya (Nietner)

Location of type unknown to me The above is translated from Motschulsky's Latin diagnosis and remarks in French

74 Psylliodes brettinghami, Baly.

Psylhodes brettinghami, Baly, Journ of Ent 1 1862, p. 457

Body broader, ovate Colour above shining blue, very often with a mixture of brown, underside obscure rufo-piceous with a purple reflection, legs pale piceous, the apex of the four anterior tibiæ, together with the tarsi of the same legs, blackish-fuscous,

antennæ black with the three basal segments pale fulvous

Head broader at base and narrowed in front, vertex almost nupunctate or very minutely and sparsely punctate when seen nuder a high power, the lower portion of the face rufo-piceous, sparingly clothed with pale fulyous hans, frontal tubercles and median curing absent Autenna with first segment long, clubshaped, second slender, slightly shorter, third shorter than second, from the fourth to the tenth the segments are stonter and almost equal to each other, the last being pointed. Prothorav nearly a third broader at the base than long, narrowed from base to front,

sides straight, obliquely truncate at their tront end, upper surface smooth, convex from side to side, deeply but not very closely punctate Scutellum small, triangular, shining piceous Elytra broader than prothorax, but less so at the base, ovate, narrowed from a short distance behind the shoulders to the apex Each elytron is impressed with eleven regular rows of punctures, including a long scutellar and an extreme inarginal row; strise on the outer half of the surface (and all towards the apex) indistinctly



Fig 48 - Psylhodes brettinghami, Baly

sulcate, their interstices obsoletely convex, those on the inner part of the disc in front flat, and all of them finely and remotely punctate

Length, 3½ mm

The type-locality is simply "INDIA". BENGAL Pusa, vin, 1912 and 1915, on Brinjal seedlings and leaves (O C Ghosh, Pusa Coll) BURNA Ruby Mines (Doherty); Tavoy, Tenasserim (Doherty)

Type in the British Museum.

In the six specimens in the British Museum from Baly's collection the legs are more brownish than piceous, but in two examples from Tivoy and in the three from Ruby Mines the underside and legs are more pitchy than either brownish or reddish, the examples from Ruby Mines are also darker blue above

75 Psylliodes chira * sp no

Body elongate-ovate Colour blue above, the legs (except the posterior temora), the three basil segments of the antennæ, and the month-parts, yellow or yellow-brown, the six or seven apical

segments of the antennæ, and the underside, piceous

Head interocular space with a few punctures, the interantennal space without any sharp carina Antennæ extending to the middle of the elytia, first segment long, club-shaped. second slightly longer than third, tourth also longer than third, fifth shorter than tourth, from the fifth to the end the segments are somewhat thicker and almost equal to each other quadrate, its sides slightly oblique, more or less straight, anterior angles obliquely cut away, each bearing a fine seta, posterior angles obtuse, each of them also bearing a fine seta, basal margin slightly sinuate, the upper suiface unitoimly convex from side to side and more or less closely punctate with deep punctures. Scutcllum small, insignificant, triangular Elytia broader at the base than the prothorax, almost parallel-sided, somewhat narrowed behind, each with eleven regular rows of punctures, including a scutellar and an extreme marginal row; all the interstices are raised throughout and contain the usual faint and fine punctures. Underside covered with fine hairs

Length, 3 mm Assax Manipur (Doherty)

Type in the British Museum Described from four examples

76. Psylliodes plana, sp nov.

Body ovate, narrowed in front as well as behind Colour above pure blue without any brassy or bronzv tint the first two or three segments of the antennæ yellow-brown, the rest piccous, the legs dark pitch-brown, the colour being somewhat lighter at

the points of articulation

Head with vertex convex, rounded and closely punctate, interocular and interantennal spaces even Antennæ extending a little distance beyond the middle of the elvira, first segment clongate, slender, club-shaped, second and third equal, fourth slightly longer than either third or fifth, from the sixth the segments are somewhat thicker and more or less nearly equal, and the tenth is pointed Prothorar very slightly broader than long marrowed in tront, the hind inargin widely sinuate, anterior margin truncate; each of the anterior and posterior lateral angles bears a fine seta, the upper surface is convex with the sides sloping down, and confusedly and strongly punctate Scutellum small, triangular, with the apex broadly rounded and the surface impunctate Elytra broader at the base than the prothorax, broadest at the base and narrowing towards the apex, their

^{*} Sanskrit "rib" (in allusion to the clytral costse)

surface smooth, punctate-striate, each elvtron having eleven rows of punctures, including a long scutellar and an extreme marginal row, the punctures in the rows are feebly impressed, the interstitial punctures being still feebler, and the interstices perfectly even throughout *Underside* as under the description of the genus

Length, 3 mm

UNITED PROVINCES: Kumson; Sukhatal, 8000 feet, v 1920, and Rankhet (H G Champion)

Type in the British Museum Described from two examples

77. Psylliodes tenebrosus, Jacoby

Psylhodes tenebrosus, Jac., Ann Soc Ent Belgique, xl, 1896, p 269.

Body narrowly elongste, parallel-sided, narrowed behind. Colour above black with brassy sheen, underside black, the three basal segments of the antennæ yellowish, the rest black, the points of articulation of the femora and tibiæ, the apex of the front and middle tibiæ, and the entire hind tibiæ and hind tarsi, yellow or brownish-yellow, while the remainder of the legs

в рисеоцв.

Head distinctly and rather closely punctate, irontal tubercles absent, clypeus impunctate Antennes extending to the middle of the elytra; first segment elongate, club-shaped, second, third and fourth elongate, almost equal to each other in length; from the fifth to the ninth the segments are somewhat thicker and become successively shorter, and the tenth is pointed thorax broader than long, narrowed in front, sides straight, anterior angles obliquely cut away and bearing a fine seta, posterior angles a little more than right angles, each bearing a fine seta; upper surface convex and uniformly confusedly punctate, with strong punctures. Scutellum small, triangular, with the surface impunctate Elytra each with eleven longitudinal, regular rows of punctures, including a long scutellar and an extreme marginal row, the lows converge towards the apex, where they meet in pairs and the punctures become somewhat feebler the interstices contain irregularly arranged longitudinal rows of very feebly impressed minute punctures, and generally there are two or three such rows in each interstice shining.

Length, 23 mm.

Punjab. Chamba (type-locality). United Provinces Chaubattia, Almora District, 6000-7000 it (S. R. Archer), South Gahiwal, 6500 ft, Sukhatal, 8000 ft., Dudhatoli, 8000-10.000 ft, all in Kumaon (H. G. Champion); Naim Tal, 7000-8500 ft, vii 1923 (H. G. Champion); Naim Tal, Jolikoti, 10 xi 1909. on Crucifeious plants (Pusa Coll), Bhim Tal, 6 in 1912 (Pusa Coll)

Type in the British Museum vol. 11.

There are examples in the Indian Museum collection from the Palni Hills (Kodaikanal, 6900-7200 ft, ix. 1922, S. Kemp), and two examples in the late Mons J. Achard's collection from Shembaganur, which strongly resemble this species but seem slightly more narrowed behind

SECTION III (Antennæ eleven-segmented)

1 Pronotum and elytra, or at least the elytra, onbescent, insect always considerably less than 7 mm long*

Pronotum and elytra not pubescent (except in Ophrida hirsuta, see footnote below)

2 Claw-segment of posterior tarsi greatly dilated

Claw-segment of posterior tarsi not greatly dilated

3 Anterior coxal cavities closed or almost closed behind

Anterior coxal cavities open behind

Subsection III, p 174

Subsection IV, p 283

SUBSECTION 1.

Pronotum and elvtra, or at least the elytra, pubescent, body always considerably less than 7 mm long.

1 Punctures on elyira arranged in rows, the hairs are semi-erect, directed backwards, and arranged in series along the intervals

Punctures on elyira confused, the hairs are adpressed to the body

2 Prothorax very strongly constricted behind

Prothorax not constricted behind

3 Pronotum shining, without hairs

Pronotum hairy

LIPRUS, Motsch, p 130 EPITRIX, Foudras, p 133 DFMARCHUS, Jacoby, p 135 HESPERA, Weise, p 137

Genus LIPRUS, Motschulsky

Leprus, Motsch, Etud Ent 1x, 1860, p 26

GENOTYPE, Laprus punctato-structus, Motsch (Japan), the species for which Motschulsky erected the genus

Body oblong, very small (23-3 mm long.) Head as broad as prothorax, eyes strongly convex, frontal tubercles well developed, antenna very long, sometimes as long as the body, with the segments elongate and somewhat thickened towards the apex Prothorax longer than broad, much narrower than the base of the elytra and strongly constricted behind. Elytra seriately punctate,

^{*} Ophreda hirsula, Stebbing (p 230), is pulescent on the upper side, but it is a large insect and can be easily distinguished from the species in Subsection I

LIPRUS. 131

the humerus is strongly laised, and between it and the suture the surface is so markedly convex that the part immediately behind appears strongly depressed. The intervals between the rows of large punctures bear series of short, semi-erect, silvery hairs Underside anterior coxal cavities closed behind, prosternum very narrow, almost concealed between the strongly rounded coxæ, mesosternum elongate and more or less broad, first abdominal sternite very long, hind femora more strongly incrassate than the others, all the tibiæ cylindrical and without spurs or spinules at the apex, claw-segment of the tarsi thickened and not projecting so much beyond the bilobed segment as in some genera, claws small, appendiculate

Range Japan, Java, Sumatra, Borneo, Andaman Islands,

Burma, Assam

Key to the Species

Colour deep chestnut-brown

Colour of prothorax and legs golden-brown,

that of elvtra black with bluish tint

L assamensis, sp n., p 131

L fulvoniger, sp n, p 132

78 Liprus assamensis, sp. nov.

Body shining Colour deep chestnut-brown, third, fourth and fifth segments of the antennæ lighter brown



Fig 49 - Laprus assamensis, Maulik.

Head broad and large, vertex convex, impunctate, with a few cattered silvery hairs, interocular space on a more elevated plane

than the vertex, eyes strongly convex; interintennal space very narron with a deep median impression between two adges. Antennæ slender, a little shorter than the body, and very sparsely covered with fine hars, especially towards the area, first segment long and club-shaped, second shorter and thicker than third, the latter and the following two more or less nearly equal, the sixth very slightly stouter and shorter than the preceding, from the seventh to the end all are nearly equal Problem ar larger than broad, evhndrical its sides not in irgined; the deep constriction in front of the base divides the prothorax into two distinct portions. the auterior of which is bronlened and rounded in front and his its surface smooth and impunctate, while the posterior portion is smaller, its surface being narrow; the pronotion has a few scattered hairs. Scatellum comprimitively large, triangular, with aper rounded and surface smooth and impunctate broader at the base than the prothorar: the humeins is strongly raised, and below it is a sharp longitudinal radge which vanishes towards the apex: this ridge divides the surface into two planes one horizontal and the other vertical. The arrangement of the rous of punctures on each clutton is as follows on the horizontal surface i.e. internal to the ridge there are seven rows of nunctures towards the bise; behimi, the short sutural row airistomores with the next row, and the sixth row bilineites, posterior to the humerus, into two rows; about the mubble of the length of the elytron eight rous can be counted; on the vertical area, ic external to the ridge there are either tour or three confined rans, which towards the apex become reduced to three or two, as the case may be, all the lows converge towards the aper on the external area somewhat raised - Underside smooth, shading. impunctate, sparsely scuttered over with fine silvery hans

Length, 23 mm . length of antenna, 2 mm.

Assau: Pathar Mts., Anga Hills: Assau Valler (all Delicated Type in the British Museum. Described from eight example. There is one example, not in perfect condition, of this genns in the British Museum, collected by G. Rogers from the Andam in Islands. It resambles L assaurances on the whole, but is much ighter in colour and with the clytral punctures larger. Although I do not wish to make a definite statement about the specific relationships of this specimen, at least the fact that the genis Lapure occurs in the Andam is a cetablished

79 Liprus fulvoniger, sp nov.

Prothorax and legs golden-lu own - head and autenna presure

elytra and underside black with a bluish tint, shining

Head broad with vertex convex and impunctate, the median impression between the automic is not so pranounced as in L. assumensis, nor is the difference of elevation between the vertex and the rest of the surface in front. Amongs ibout one-bull a influence shorter than the lody that segment long and

club-shaped, second shorter and somewhat thicker than third, third, fourth and fifth slender and almost equal, sixth and seventh each slightly shorter than those which precede them and equal to each other, eighth to eleventh very slightly thicker and equal Prothoras shape and structure as in L assamenes, surface Scutellum triangular, impunctate. smooth and impunctate Elytra much broader at the base than the prothorax, humerus prominent, just-humeral longitudinal ridge not so pronounced as in L assamensis, the basal convex area is present, but is also less prominent than in L assances see The scheme of punctuation on each elytron is mainly the same as that described in L assamensis across the base there are seven rows including the sutural and the extreme marginal lows; as in L assamensis, the sutural row anastomoses with the next row, across the middle part eight rows can be counted, all the rows converge, and the punctures become teebler, towards the apex Underside smooth, shining, impunctate, sparsely scattered over with very fine silvery hims.

Length, 3 mm., length of antenna, 23 mm Burva Ruby Mines (Dohn ty)

Type in the British Museum Described from one example

Genus EPITRIX, Foudras

Epitics, Foudins, Hist Nat Col Fi, Altisides, 1860, p 308, Fowler, Col But Isl w, 1889, p 384

GENOTYPE, Epitria atropa, Foudias (Europe), by present desig-In proposing this genus Foudras mentions three European species, viz E pubescens, Koch E intermedia, Foudr. and E attopæ, Foudi

The msects of this genus can be easily recognised by two haracters (1) a transverse depression just in front of the basal margin of the pronotum, and (2) the lows of semi-elect, backwardly directed hans along the intervals between the longitudinal series of elytial punctures These beetles are of small and stout build, the upper surface being roughly punctate. Head broad, but nanower than the breadth of the pronotum; eyes convex, intennæ long, somewhat shorter than the body Prothorar broader than long, convex and strongly punctate, turnished with the inte-based impression mentioned above Scutellum very small. triangular, with aper rounded Eliptic seriately punctate, with the punctures very deep, and bearing in the intervals the rows of liairs mentioned above Underside junctate and furmshed with BITT Posterior temora only moderately thickened

America, Europe, Airica, Mudagascar, Ceylon

This genus is largely South American, but a few representatives of it have been found in Europe, Africa and Madagascai insect described below is from Ceylon, and it is probable that the natural range of the genus extends so far, but I cannot be absolutely sure from the one example before me, since this may have been accidentally imported. From India proper it has not yet been recorded

80. Epitrix lomasa *, nom. nov

Crepidodera hirtipennis, Jac, Proc Zool Soc Lond 1887, p. 90

Body oblong-ovate, narrowed at the apex Colour pitch-black, antenuæ and taisi yellow, the four or five apical segments of the former fuscous

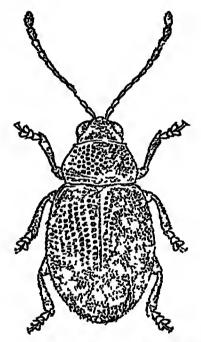


Fig 50 - Epitica lomasa, Maulik

Head impurctate, with some long white hairs, each arising from a small puncture, frontal elevations indistinct. Antennæ a little shorter than the body, first and second segments thickened and almost equal, the third and the three following segments equal, slightly shorter than the second but not so stout, the five terminal segments slightly thickened. Prothorax somewhat broader than long (not "rather more than twice as broad as long," as Jacoby incorrectly states), sides in front nearly straight and convergent, auterior angles ending in a blunt tooth, posterior almost right angles, disc strongly rugose-punctate, with a deep transverse

^{*} Sanskrit, ' hairy"

impression in trout of the basal margin, this impression not being terminated on each side by a longitudinal line, there are long hairs along the lateral margins Elytia broader at the base than the pronotum Each elytron has eleven longitudinal rows of deep panetures, the short scatellar row anastomosing with the first at about the middle of the length of the elytron, in such a way as to render it difficult to say whether the first series should not be considered as arising out of the so-called scutellar row All the intervals are raised, and that hetween the two outermost Along all the series except the outer marginal lous is broader one are long hairs, arising singly, these being longer than those The epipleuron of the elytion is indistinctly on the underside sephated from the upper surface, and it bears a row of punctures Underside smooth, shiring, sparsely covered along its maigin with longish white hans, prosterium more or less broad, with a ridge in the middle, on each of which is a longitudinal depression containing a few little pits, anterior covar carries closed behind, mesosternum broader than long and rectangular in shape, first abdominal sterate very long. All the femora are equally thickened tibes not channelled, claus appendiculate

Length, 14 mm CLLON (G Lewis).

Type in the British Museum

Jacoby brunselt was uncertain about the position of this insect, and he placed it tentatively in Crandodia. In referring it with some hesitation to Epitrix, I find that the name hirtipenius has been used although it has fallen as a synonym, I therefore propose lomasa is the specific name

Genus DEMARCHUS, Jacoby

Demarchus, Jac, Proc. Zool Soc Lond 1887, p 101

(HENOTYPE, Demarchus pubipennis, Jac, the only known species

Body elongate-ovate, pronothing glabions, elytra pubescent. Head broad, eyes strongly convex, antennæ filiform, the third segment more than double the length of the second, palpi robust Protho ax transverse, with an anterior and a posterior transverse depression. Scatellum triangular with the apex broadly rounded, convex. Elytra with adpressed pubescence confusedly punctate, anely rugose, their epipleura disappearing behind the middle. Underside anterior coxal cavities open, prosterious scarcely visible, mesosterious parrow and pointed, takes simple, minimed first segment of posterior takes not longer than the second class bifid

This genus resembles Schuthe, from which the simple tibite, transversely impressed thorax and pulsescent eletra will at once distinguish it. The posterior lemons are moderately but very distinctly increased:

Runge (by

į

81. Demarchus pubipennis, Jacoby

Demarchus pubipennis, Jac, Proc Zool Soc Lond 1887, p 101

Colour testaceous, elytra obscure fulvous, with the basal and lateral margins obscurely piceous, the dark colour on the lateral margins in some cases not extending to the apex, labrum piceous

Head vertex depressed, rigose, the frontal tubercles distinct, nearly square and smooth Antennæ nearly as long as the body, first segment long and club-shaped, second shorter than third, the third and four following segments elongate, nearly equal to each other in length, the four aprical segments slightly shorter

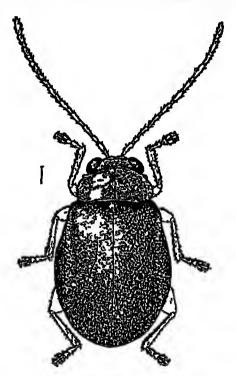


Fig 51 - Demarchus pubepennis, Inc

Prothorax twice as broad as long, sides rounded at the middle, narrowed near the anterior angles, the latter slightly prominent, pusterior angles rounded, front and basal margins almost straight, surface shining, scarcely visibly punctate near the sides, with a short anterior and a posterior transverse depression and a small anterior foven, as well as an obsolete oblique posterior lateral depression on either side Scatellum triangular with apex rounded, punctate and harry Eliptia broader at the base than the prothorax, closely pubescent, very finely rugose-punctate, each puncture bearing a short silvery adpressed hair Underside

clothed with hairs similar to those on the upper side, other structures as stated under the genus

Length, 4 mm.

CEYLON Galle, on coast level, 27. x1-4 x11.1881 (G Lewis). Type in British Museum.

Genus HESPERA. Werse.

Hespera, Weise, Her Soc Ent Ross xxiii, 1889, p 688, Jacoby, Ent xxiii, 1890, p 162, pl 1, fig 11
Allomorpha, Jac, Ann Mus Civ Genova, xxxii, 1892, p 984.

GENOITE of Hespera Hespera sericea, Weise (type in Leningrad, Potunin Coll)

GENOTYPE of Allomorpha Allomorpha sericea, Jac. (type in

British Museum)

Body oblong, upper side (including the pronotum) densely covered with pubescence, generally subnitid. Head exserted;

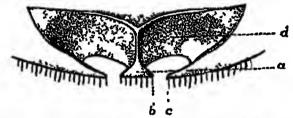


Fig 52—Hespera rufipes, Maulik Underside of prothorax a, intercoxal process of prosternum, b and c, points which almost complete the closure behind of the front coxal cavities, d

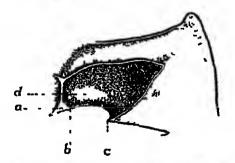


Fig 33—Hespera symma, Maulik One half of underside of prothorax a, intercoxal process of prosternum, b and c, the two points which, if produced, would complete the closure of the front coxal cavity, d The specimen was tilted to show the coxal cavity to the best advantage, and hence the aind margin of the intercoxal process appears oblique

frontal elevations absent, interantennal carina present, eyes strongly convex. Antennæ long, slender, generally extending to two-thirds the length of the body, but in some cases to the end of the body; first segment long and club-shaped, second small, much

shorter than first and a little shorter than third, fourth (in some species at least) slightly longer than third; the following segments more or less nearly equal to each other and always more hairy Prothoraa subquidrate, slightly broader than long, each of the auterior and posterior angles bears a fine seta, and the hind angles are widely rounded, front margin more or less straight, the basal margin muy be slightly extended, sides straight, surface not very convex and without any basal transverse turrow Soutellum small. Friangular Elytra always distinctly broader than prothorax, their sides straight, generally rounded but in some cases rather narrowed at the apex, confusedly punctate, the adpressed pubescence of the surface obscures from view the punctuation, epipleura broader at base, not continued to apex, slanting or vertical Underside thinly pubescent, prosternum very narrow, almost concealed from view by the convexity of the coxe front coxal cavities of the closed type, but the closure is not always quite complete; legs slender, posterior femora strongly incressate, posterior tibie longer than either the front or middle pairs and with a small spinule at their aper, posterior tarsi longer than either the front or middle pans, the first segment being almost as long as the following three together, claws appendiculate

Range China, Mongolia, Tudia, Burma, Ceylon, Africa Some species in this genus have a very wide distribution

After considerable thought I have decided to sink Allomorpha,

Jac, 119 a synonym of Hespera, Weise

equally covered with pubescence

Key to the Species

1	Upper surface bluish-green, elytial punctures large	<i>H суанеа</i> чр п р 140
	Upper surface differently coloured punctures smaller	2 p 141
2	Pronotum red-brown, elytra black Body not so coloured	II sufithorar, sp n,
3	General colour dark brown with golden- brown pubescence	II lomasa hom nov,
	Body and its pubescence not so colonied Pubescence yellow-brown, rather long	4
•	antennæ somewhat stouter Pubescence silvery-whitish to vellowish-	II dakshina sp u, p 145
_	grev antennæ more slender	5 II sufipes, sp 11, p 189
	General colour black, legs reddy-h-brown General colour black, legs also black	()
ь	Punctures on the upper surface course, antenne as long as the body	II krushna, sp n p 144
	Punctures times, automic extending to the middle or a little distance beyond	_
7	the middle of the elvita Head granulate, not covered with pubes-	7
•	cence	II serucea, Weise p 139
	Head as punctate as the pronotum and	77

II migripes, sp u, p 143

82. Hespera sericea, Weise

Hespera sericea, Weise, Hor. Soc Ent Ross xxiii, 1889, p 639, Duviviei, Ann. Soc Ent Belg xxxvi, 1892, p 426

Body oblong Colour deep black, in some specimens the three or four basal segments of the antennæ are blackish mixed with yellow and more shining than the rest, pubescence yellowish-grey

Head slightly convex with surface finely granulate and also with a few punctures, not covered with pubescence, other characters as described under the genus. Antennæ extending to about the middle of the elytra, the relative lengths of the segments as stated under the genus. Prothorax general shape and proportions as stated in the description of the genus; very slightly narrowed in front, surface granulose-punctate and covered with pubescence. Scutellum triangular, small, granulose. Elytra granulose-punctate and covered with pubescence like that of the prothorax. Underside as described under the genus, more shining than the upper surface.

Length, 3-4 mm.

DARJEELING DISTRICT Kurseong (P Brast) Weise first described this species from China when working out Potsiin's collection Jacoby in 1890 identified as this species some examples collected by Mr A E Pratt in July 1886 from Chang Yang, Hupeh Province, Central China Duvivier in 1892 determined as this species some examples taken at Kurseong by Bruet.

Type in the Potanin Collection, Leningiad

83 Hespera rufipes, sp nov

Hespera sufipes, Weise, MS

Body oblong Colour greyish-black, the legs and the tour basal segments of the antennæ reddish-brown or brownish-vellow, the seven apical segments of the autennæ and the apex of the hind lemora blackish

Head with the vertex more or less flat, and its other parts as described under the genus. Antenuæ only half a nullimetre shorter than the body, the relative lengths of the segments are as stated under the genus, the second is shorter than the third, which is slightly shorter than the fourth. Prothorax shape, form and other characteristics as stated under the genus, posterior angles widely lounded. Scutellum very small and triangular, almost concealed from view by the pubescence. Elystica as described under the genus. Underside more shining than the upper side, thinly covered with fine hairs. Anterior coxal cavities almost closed behind (see fig. 52, p. 137). Elystial epipleura slanting, broader at the base and vanishing towards the apex, somewhat drawn out vertically at one point.

Length, 3 mm.; length of antenna, 2; mm

Assam Khasi Hills (ex Kiautz Collection and Andrewes Collection).

Type in the British Museum

The above description is taken from specimens from the Killatz Collection in the British Museum, which bear Weise's labels of identification and which I take to be anthentic

84. Hespera cyanea. sp nov.

Body oblong Colour blue-green, antennæ, underside and legs, black

Uend with the vertex more or less coarsely punctate, with a transverse impression above the eves crossed by a median longitudinal impression, interactional space with a slight elevation,

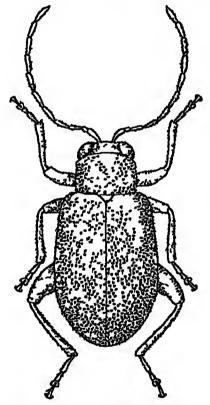


Fig 54 -Hespera chanca, Maulik.

tace sparsely covered with a few scattered hans. Antenno slender, extending to a little beyond the middle of the elvira, first segment long and club-shaped second much smaller than first, third a little longer than second, fourth somewhat longer than third the following segments nearly equal to each other Prothorux broader than long, anterior and posterior maigns nearly straight sides straight, posterior angles widely rounded, anterior angles almost right angles, surface gently convex from

HESPERA 141

side to side, coarsely punctate and sparsely covered with fine hairs which are more easily seen at the sides than in the middle Scutellum triangular, purplish, with a few hairs at the base Elytra broader than prothorax, then sides more or less parallel, nounded towards the apex, the surface coar-elv and confusedly punctate and sparsely covered with thin hans, which are more easily visible at the sides than in the middle Underside shining. impunctate, thinly covered with fine hairs, legs slender, tibiæ aimed with a sharp spine at the apex, flist segment of the pos terior tarsi longer than the two following segments together. claws appendiculate posterior remora strongly developed, prosternum yer, thin, anterior coxal cavities of the closed type, but less completely closed than unother representatives of the genns (see fig 53, p 137)

It may be remarked that the punctuation is coarser than in other species of the genus and the hammers of the upper surface 14 different, being sparse; in two examples from Mampur only a ten erect hairs are visible at the sides and apex, and on the land part, of the clytta The Mampin specimens are also some-

what larger than the type

Lingth, 3-31 mm

BURMA Ruhy Mines (Doherty) Assau Manipur (Doherty) Type in the British Museum Described from seven examples

55 Hespera rufitherax, sp nov

Body oblong Colour bluck. underside brownsh-black. the three basal segments of the antenna and the prothorax red-

brown, which may vary from a lighter to a deeper shade

Head broad, with the vertex impunctate, not covered with pubescence; with a longitudinal median impression which is crossed by a transverse impression just above the eves, the elevition between the antennæ rounded, not very prominent, intericular space broad, ever strongly convex extending to a little beyond the middle of the clytia, first segment long, club-shaped, second much shorter, third longer than second and a little shorter than fourth, the following segments moderately long and about equal to each other, also more hanv than the three basal segments Prothorar broader than long. somewhat narrowed at the base sides rounded, anterior and posterior margins almost straight, surface convex from side to side. hardly muictate, and sparsely covered with fine hars Scutellune small, triangular, covered with hairs Elytra broader than prothorax, completely covered with grevish bans, the latter arising from punctmes Under side sparsely covered with fine hairs more shining than the upper side, prosternum very thin, almost concealed between the shough convex antenior coxe, the cavities of which are certainly closed behind although at first sight they may not appear to be so Legs slender, posterior temora incressate tible exhadred each having a sharp thin spine at the apex, hind tibuse longer than either the front or middle pairs, first segment of the posterior tarm almost as long as the following segments together; claws minute, appendiculate

Length, 35 mm

BURMA Tenasserim (Doherty) Assam Patkai Hills (Doherty)
Type in British Museum Described from two examples

86 Hespera lomasa*, nom nov

Allomorpha sericea, Jacoby, Ann Mus Civ Genova, xxxii, 1892, p 934

Dark brown, entirely clothed with golden-yellow pubescence, the apical segments of the antennæ and the apex of the posterior temora piceous

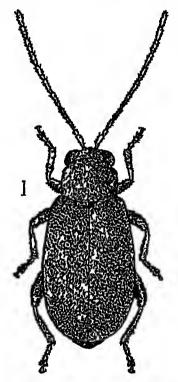


Fig 55 - Hespera lomasa, Maulik.

Head pubescent like the test of the body, eyes large, convex, the frontal elevations absent, as is characteristic of this genus. Antennæ slender, extending to nearly two-thirds the length of the elytia, flist segment long and club-shaped, second small, much shorter thun first, third longer than second, the remaining

^{*} Sanskrit, "hairy" Since the name sericea is preoccupied by Weije's species (above, p 139), loman is here proposed

segments nearly equal Prothorar broader than long, sides straight, anterior angles not produced, posterior angles widely rounded, surface not very convex, the clothing of dense pubescence obscures the punctuation Scatellum piceous, triangular, pubescent. Eliptia broader than prothorax, parallel-sided, surface not very convex, the pubescence obscures the punctuation Underside thinly covered with fine hairs, breast more or less piceous, other structures as stated under the genus

Length, 3 mm

BURMA Karen Hills (Fca) SOUTH INDIA Nilgiri Hills (H L Andrewes) BOMBAY Dhaiwar (Andrewes Coll) Crilon Kandy, vii 1905 (G E Biyant).

Type in the Genoa Museum There is also an example marked

"type" in the British Museum

This species seems to have a very wide distribution. The Indian and Ceylonese specimens differ from the Burmese example only in that the general colour of the body is slightly darker

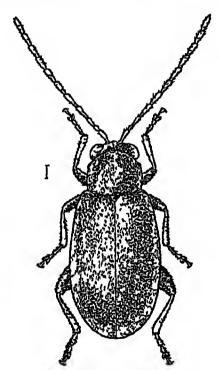


Fig 56 -He-pera magripes, Maulik.

87. Hespera nigripes, sp not Hespera nigripes Weise MS

Black covered with fine silvery hairs. The three basal segments of the antenne are in some examples vellow brown and

a tendency towards this yellow-brown colour may be recognised at

the points of articulation of the appendages.

Head exserted, vertex covered with fine silvery hairs as me other parts of the upper surface of the body, other characters of the head as stated under the genus Antennæ extending a little distance beyond the middle of the body, the relative lengths of the segments are as stated under the genus, the third segment in some examples appears to be not much longer than the second Prothorax broader than long, its form and that of the anterior and posterior angles are as described under the genus; surface not very convex, punctate, the punctures being concealed by the pubescence Scutellum triangular, punctate, pubescent. Elytra broader than prothorax, confusedly punctate, covered with silvery pubescence, which concrais the punctures. Underside also pubescent, but not so closely as the upper side The anterior coxal cavities are of the closed type, although in this species also, owing to the thinness of the prosternum, the closure is not quite complete.

Length, 3 mm

ASSAM Khasi Hills (ex Kraatz Coll). UNITED PROVINCES Kumaon, Almora (H G Champion), Naimi Tal, vi and ix 1917-1918 (H. G Champion)

Type in the British Museum

88 Hespera krishna*, sp. nov

Oblong, rounded behind Completely black, covered with

silvery hairs

Hend exerted, with the vertex strongly punctate and pubescent, other characteristics as is normal in this genus. Antennæ extending almost to the apex of the elytra (in this H. krishna differs from H nigripes, in which the antennæ are shorter), first segment club-shaped and long, second much shorter than either first or third, the other segments almost equal. Prothorax shaped as is usual in the genus, surface more strongly and coarsely punctate than in H nigripes. Scatellum small, triangular, harry Elytra broader than prothorax, as strongly punctate as the pronotum Underside offering no special characteristics, the anterior coxal cavities are more nearly closed in this species than in some others H krishna is closely related to H nigripes, but can be easily separated by its longer antennæ and stronger and coarser punctuation

Length, 3 min

BURMA Ruby Mines (Doherty) UNITED PROVINCES Kumaon, Nami Tal, West Almora; Ranikhet (all H. G. Champion)

Type in the British Museum. Described from nineteen examples, of which three are from Burma.

89 Hespera dakshina *, sp. nov.

Oblong. Entirely black, covered with rather long brownish-

vellow pubescence.

This species closely agrees with what has been written in the description of the genus, but the following points call for notice the antennæ extend to a little distance beyond the middle of the elytra; they do not appear so slender as in other species, the second segment is distinctly shorter than the third, the fourth almost equal to the third. The punctuation is less strong than in *H. krishna*, and seems to be slightly stronger than that of *H. nigripes*. The brownish pubescence is somewhat longer than the silvery—white pubescence of *H. nigripes*. When the insect is viewed from above, the last abdominal segment is generally visible

Length, 4 mm

S India Nilgiri Hills (G F Hampson).

Type in the British Museum Described from seventeen examples

SECTION III: SUBSECTION II

Pronotum and elytra not pubescent, claw-segment of hind tarsi greatly dilated

1 Elytral epipleura extraordinarily broad; antennæ long, surface of pronotum somewhat depressed, its margins flattened or slightly concave

Elytral epipleura not so broad, antennæ

not so long, pronotum convex

2 A more or less deep impression on either side of the pronotum along its basal margin and a short longitudinal impression on each elytron within the humerus

No such impressions on the pronotum or on the elytra

Hypnasis, Harold, p 145

2

Philopona, Weise, p 148.

Нурнавома, Јас, р 156.

Genus HYPHASIS, Harold.

Hyphasis, Harold, Deutsche Ent Zeitschr xxi, 1877, p 484, Jacoby, Ann Soc Ent. Belg. xlvii, 1908, p. 110

GENOTYPE, Hyphans magica, Harold.

Body oblong-ovate Head broader than long, vertex convex, narrow, interocular space narrow, frontal tubercles in the interantennal space well developed and with a longitudinal impression along the middle. Antennæ passing a little beyond the middle of the elytra, slender; first segment elongate, club-shaped, second very small, less than half the length of the first or the third, from the third to the seventh the segments are more or less nearly equal

^{*} Sanskrit, "South"

146 HALTICINÆ



Fig. 57 -Hyphans magica, Har Left elytron, showing the explanate margin



Fig 58 -Hyphasis magica, Har Linderside, showing breadth of epipleura



Fig 59 — Hyphasis magica, Har Lateral view of end of time and tarsus of hind leg, showing the dilatation of the clausegment

to each other in length, from the eighth to the eleventh they are shorter, the last being pointed, the whole antennie are covered with pubercence. Evessirongly convex. Prothorax much broader than long, upper surface some what depressed, the lateral margins somewhat explanate, the explanate portion being concave; anterior margin nearly straight, posterior alightly simuate, anterior and posterior lateral angles rounded. Scatellum moderately large, triangular, with apex rounded. Eliptical hardly broader at the base than the prothorax, the sides rather nearly parallel, with the margins slightly explanate and apex broadly rounded, surface closely, strongly and confusedly punctate. Underside elytral epiple ira extraordinarily broad; posterior femora with a channel on the underside, posterior takes with a pointed spine at the apex; claw-equient of the posterior taxs swollen, claws simple

Owing to the shape and structure of the prothorax and the extraordinarily expanded epipl ura of the elytra, Jacoby proposed to leep *Hyphasis* as a monotypic genus, with Harold's magica, from Dargeoing, as the type.

Range The Eastern Hundayas.

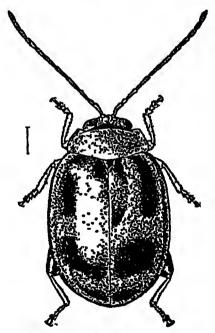


Fig 60 - Hyphasis magica, Harold.

90. Hyphasis magica, Harold

Hyphans magica, Haiold, Deutsche Ent Zeitschr xxi, 1877, p 433.

Reidish brown, sometimes much lighter, subnitid; vertex of head blue-black, a large elongate blue-black patch common to

both elytra extends from the middle of the base along the suture to a certain distance, including the scutellum, and on each elytron there are a large humeral longitudinal patch, a large postmedian transverse patch and smaller apical patch, all blue-black

Head vertex convex, somewhat rugose, hardly punctate Prothorax with the surface very finely punctate Scutellum impunctate The other structures are exactly as under the generic

description.

Length, 6-7 mm.

SIKKIM Gopaldhara, Rungbong Valley (H Stevens), Mungphu Bengal Buxa, Duars (Pusa Coll)

The location of the type is unknown to me

In the short Latin original description, Harold designates this insect "Oed maqua," the title of the short paper being "Beschreibung einiger Oedionychis-Arten", these latter are mostly from South America Immediately after the description he proposes the genus Hyphasis owing to the presence of certain characters in this species Evidently, then, he considered that magica belongs to a separate genus and not to Oedionychis

Genus PHILOPONA, Weise

Philopona, Weise, Archiv Naturgesch. 1717, Band 1, 1903, p 216

GENOTYPE, Philopona tibialis, Weise (Africa)

Weise separated off the African and Indian species formerly placed in the genus Octionychis, Latr, and erected for them the present genus (Philopona) It is characterised by possessing the following two features (I) a transverse impression on each side of the projectum on the basal margin (these two impressions may unite undiform one impression), and (2) a longitudinal impression

inside the humerus on each elytron.

These insects are generally oblong or oblong-ovate, sometimes Head large, as broad as the width of the prothorax. parallel-sided with eyes strongly convex and vertex convex, the latter either coarsely or finely punctate, or impunctate, frontal elevations broad, always well developed and divided by a longitudinal median line, and separated from the vertex by a well-impressed transverse line, which may in some cases be angled in the middle, interantennal carina always developed (see, for instance, Ph mouliots, fig. 62, p 154) Antennæ generally short, extending only a little distance beyond the base of the prothorax, sometimes reaching about the middle of the elytra, but never equal to the length of the body, not, at least, among our species, first segment always the longest, thickest and club-shaped; second always very short, but it may be thicker than the third, which is elongate and slender, third to fifth nearly equal, sixth and seventh equal but somewhat shorter than each of the preceding slender ones, eighth to eleventh again somewhat shorter but equal to each other, this is the general plan of the structure of the antennæ, but

there are slight variations as to the relative lengths of the segments: the autenue are generally covered with slight pubescence. the basal three or four segments to a much less degree. Prothoraw always much broader than long, upper surface more or less convex, generally very finely punctate; lateral margins always somewhat explanate and concave, more so than in Hyphasoma; the anterior lateral angles not so produced as in Hyphasoma; at each of the anterior and posterior angles is a fine seta arising from a pore with a slightly elevated base Scutellum always triangular, with the surface always impunctate Elytia somewhat broader at the base than the prothorax, upper surface confusedly punctate, the punctures being generally stronger than those of the pronotum, but in some cases the punctures are finer on the apical part; sides often slightly explanate, and sometimes the edges bear remotely distributed fine seta Underside posterior femora strongly incressate; posterior tibia generally short, ending in a shurp spine, first segment of posterior tarsi generally short, clawsegment always inflated; bilobed segment of the front and middle tarsi broad, broader than that of the posterior tarsi.

Range Asia, Africa.

Key to the Species.

1 Elytra metallic greenish-blue Elytia not so coloured 2. Elytra black, with a large round patch in the middle and an elongate area at the apex, yellow-brown Elytra not so coloured 3 Elytra with the suture stamed black Elytra with the suture not stained 4 Elytra completely immaculate, length 81-9 mm Elytra with three round black spots. one on the humeral callus, one behind the middle, and one on the apical part near the auture, length 5-6 mm 5 Sutine completely, and margins all round the elytra (sometimes incompletely) narrowly, black, surface of elvtra without spots or patches Surface of elvin with spots and patches, suture black, margins all round not black 6 Each elytron with three round black spots in a longitudinal line along the Each ely tron with five round spots Each elytion with a longitudinal stripe along the middle (sometimes incomplete)

Ph bu manica, Jac., p 150

Ph manidala, sp n, p 150

4

Ph inormata, Jac., p. 151

Ph nilgiriensis, Jac., p 152

Ph shima, sp n, p, 153

6

Ph mouhoti, Baly, p 153

Ph decemmaculata, sp n, p 155

Th signata, Duviv, p 155

91. Philopona birmanica, Jacoby.

Oedionychis birmanica, Jac, Ann Mus Civ. Genova, xxvii, 1889, p 199

Colour piceous basal segments of antenne flavous, distal segments fuscous; anterior and middle legs, posterior tibre and prothorax, flavous, elytra metallic dark greensh-blue, with the extreme lateral margin and the epipleura more or less distincily flavous.

Head with some deep punctures on the vertex, the space round the inner margin of the eyes strongly rugo-e frontal tuberclenarrow and elongate, divided, clypeus transverse, with an acutely raised projection (more obluse in the female) at its middle. Antenna extending to about half the length of the elvtra, third segment double the length of the second and longer than each of the following segments Prothorax two and a half times broader than long; its sides mollerate y rounded and explanate, anterior angles slightly produced outwards and thickened, anterior and posterior margins nearly straight, upper surince irregularly and finely punctate, bise obsoletely transversely depressed. Scutellum piceous, trungular. Elytra strongly and closely punctite first segment of the posterior tarsi short, clawsegment strongly inflated: prosterium parrowly elongate, slightly raised.

The males of this species have the frontal tubercles alongate and consisting of two short elongate ridg s, separated by a larger space than is usually the case; in the female these structures are broader, blunter and closely approximated, and the clypens in this latter sex has as centre raised into a blunt tubercle, instead of a sharp ridge as in the male.

Length, 33-5 mm Burma. Bliamo (Fea)

Type in the Genoa Museum I have not seen the type.

92. Philopona mandala *, sp nov

Body ovate, somewhat broadened behind. General colour shining yellow-brown, antenue, except the four basal segments, blackish, scutellium brown; elvira black, each with a large roundish patch in the middle and a large area at the spex, vellow-brown; labium blackish, inner edges of epipleura of elytra black, centre of ventral spriace of abdomen blackish.

Head with vertex impunctate, frontal tubercles divided by a longitudinal impression, which meets two oblique impressions separating them from the vertex. Antennæ hardly reaching the middle of the ely ra; first segment the thickest and langest, club-shaped, second small, much shorter but thicker than third;

^{*} Sanskrit, " round "

from the third to the seventh the segments are more or less nearly equal to each other; eighth to eleventh shorter but equal Protherax much broader than long; upper surface convex, very mely and remotely punciate; a transverse basal depression is present, the lateral margins are broadly explanate and concave, the sides rounded, the anterior and posterior angles ending in a blunt point. Scutellum triangular, with nex rounded and surface impunctate. Elytica slightly broader at base than prothorax, lateral margins somewhat explanate, their edges bearing remotely distributed, fine, horizontal, silvery hairs, surface confusedly, strongly and closely punctate, the punctures being finer on the apical part. Underside: surface of the sternites scattered over with fine silvery hairs; posterior ferrora strongly incrassate; posterior tibre short, ending in a spine, first segment of the posterior tarsi very short, their claw-segment infinted

Length, 41 mm

Assam Sadiya (Doherty)

Type in the British Museum Described from one example.

93. Philopona mornata, Jacoby.

Oedionychis mornata, Jac., Ann. Soc Ent Belg xl, 1896, p 261.

Body nearly parallel-sided and nather depressed Colour obscure pale fulvous or testaceous, antennæ pale, posterior claw-joint piceous.

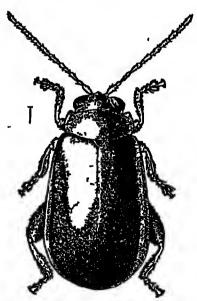


Fig 61 -Philopona inornata, Jac

Head impunctate; space separating the eyes slightly wider than their diameter; frontal tubercles small, but slightly raised;

clypeus very short, transversely raised. Antenna got extending to the middle of the elytra, basal segment thickest, club-shaped. second small, half the length of the first or third, third, fourth and fifth almost equal in length, sixth somewhat shorter than fifth and equal to the next; eighth to eleventh each thorter than the preceding segments and equal to each other more than twice as broad as long, sides moderately rounded with a rather broad, explanate, concave margin, anterior angles very slightly produced and thickened, posterior almost right angles, posterior margin almost straight; surface, seen under a high power, indistinctly and finely punctate. Scutellum tri sugular, with apex rounded and surface impunctate somewhat broader at base than prothorax, extremely minutely finely and confusedly punctate, their epipleura broad at base and deeply concave. Underside finely and spainely pubescent. posterior femora strongly incressate, first segment of terior tarsi scarcely longer than the second segment, their clawsegment strongly inflated; prosternum narrow, not sulcate

Length, 81-9 mm.

BELGAUM. NILGIRI HILLS (G. F. Hampson)

Type in the British Museum.

94. Philopona nilgimensis, Jacoby.

Oedionychis milgiriensis, Jac., Ann Soc Ent Belg xlvii, 1903, p 110

Body testaceous, the four basal segments of the antennæ testaceous, the test piceous or black; scutellum black; a spot on the shoulder, another behind the middle and a third at the

apex on the suture of each elytron, black.

Head flat except for two oblique impressions and a median depression, and with a few punctures between the eyes, frontal elevations obsolete; palpi thickened. Antennæ comparatively short, first segment thickest, second very short, third, fourth and fifth segments almost equal in length; the following shorter, as is usual in the genus. Prothorax more than twice broader than long, with explanate, concave and rounded sides, anterior and posterior angles acute but not produced, posterior margin somewhat sinuate; upper surface entirely impunctate, obsoletely transversely sulcate near the base. Scutellum triangular with the surface impunctate. Elytra slightly broader at base than prothorax, very finely and closly punctate, nearly parallal-sided but somewhat broadened behind. Underside. posterior tibus with a slight emargination at the apex, tarsi short, claw-segment strongly inflated, the inflated portion in transmitted light is of a brilliant golden colour.

This species is of almost similar coloration as O mouhot, Baly, from Burms, Siam, etc., but has the terminal segments of the antenne dark, the elytra more distinctly punctate and without

the black suture, and the intermediate and posterior black spots differently situated.

Length, 5-6 mm.
NILGIRI HILLS
Type in the British Museum

95. Philopona shima *, sp. nov.

Body oblong with the sides almost parallel and the apex broadly founded. General colour yellow-brown, the suture and elytral margins all round, with their epipleura, black or dark pitch-brown, scutellium piceous, edged with deeper colour, of the two examples before me the one from the Karen Hills has the antennæ blackish, except the three basal segments, and the colour of the siture and elytral margins is lighter than in

the other specimen.

Head with vertex convex and impunctate, fiontal elevations well developed and divided by a longitudinal median line, interantennal carina large and rounded. Antennæ extending to the middle of the elytra; first segment the longest, club-shaped, second thickened but very short, third to seventh almost equal to each other in length, eighth to eleventh shorter but equal to each other. Prothorax much broader than long; upper surface very finely and remotely punctate, the punctures being seen under a high power and in a suitable light, basal transverse depression broad, extending across the whole breadth, the lateral margins explanate and concave, sides more or less rounded. anterior lateral angles rounded, posterior almost right angles Scutellum triangular, with the apex rounded and the surface impunctate. Elytra broader at base than prothorax, their surface confusedly, closely and strongly punctate, the punctures tending to become finer on the apical part. Underside covered with fine silvery hairs, posterior tibie short, terminating in a sharp spine; first segment of the posterior tarsi short, clawsegment considerably inflated

Length, 41 nim

BURMA: Momeik (Doherty); Karen Hills (Doherty).

Type in the British Museum Described from two examples. The example from Karen Hills differs slightly from the other in coloration, as described above

96. Philopona mouhoti, Baly

Oedionyches mouhote, Baly, Ann Mag Nat Hist (5) i 1878 p. 816

Body oblong Colour shining dirty brown; underside black or piceous; scutellum, suture and three round spots in a longitudinal line commencing from the humerus (one on the humerus, the

^{*} Sanakrit, "boundary" or "limit."

second about the middle of the eltryon and the third on the apical part), black

Head with vertex minutely punctate, and front impressed with large foveolate punctures, carina between the antenness nedge-shaped, its acute apex extending upwards between the frontal elevations and its base terminating on a strongly raised transverse ridge, which extends obliquely on either side entirely across the clypens. Antenness hardly reaching the middle of the elytra, first segment long, club-shaped, second very short, scarcely half the length of the first, the latter longer than the third, which is longer than the second and equal to the fourth; the rest of the segments more or less nearly equal to each other and not very much shorter than the fourth. Prothocax more than twice broader than long, lateral margins broadle explanate, their edges reflexed, straight and parallel for two-thirds of their length.



Fig 62 - Philopona mouhats, Baly Hend, showing the ridge between the antennæ

arcuate and converging towards the front end, which is produced and armed at its extremity with a truncate tooth, curved slightly outwards, busal margin smuate on either side near the outer angle, truncate in its middle part, upper surface with a slighlow depression in front of the basal margin, immutely and remotify princtate Scutellum small, trungular, with apex rounded and surface impunctate Elyica hardly broader at base than prothorax, their lateral margins narrowly explanate and with edges reflexed, surface strongly, closely and confusedly punctate. Underside the parts are as described under the genus

Length, 62-72 mm

SIAM (1900- ocality) PERAK BURMA Monierk (Doherty),
Touriguo, Paurigde, Prome District.

Tupe in the British Museum

There is a certain amount of variation in the black markings, which in some specimens are much lighter

97. Philopona decemmaculata, sp nov.

Body oblong-ovate, somewhat broadened behind the muidle. General colour shining yellow-brown; scutellum piceous; each elytron with five round black spots, two placed side by side at the bise, two others, somewhat larger and similarly placed, just behind the middle; and one small spot on the apical part, near the sature. In one example these spots are obsolescent. The sature for a little distance from the base is somewhat darker

than the yellow-brown ground-colour.

Head with vertex finely punctate, frontal elevations and interantennal carron well developed. Antennæ extending a little distance beyond the base of the prothorax, but not reaching the middle of the elyina; first segment the longest and thickest, club-shaped, second very short and thick, third to fifth slender and almost equal to each other, sixth and seventh equal to each other. eighth to eleventh somewhat shorter and slightly thicker, but equal to each other. Prothorax much broader than long, upper surface finely and minutely punctate, basal transverse depression extending right along the basal margin, lateral margins explanate and concave, sides more or less rounded, auterior angles produced, posterior angles almost right angles Scutellum triangular with ap x rounded and surface impunctite Elytra broader at base than protherax, upper surface confusedly, closely and strongly punctate, lateral margins somewhat explanate and concave. Undersule sparsely covered with fine pubescence, posterior tibiæ short, ending in a small sharp spine, first segment of posterior tar-1 'eny short, claw-segment considerably inflated.

Length 4-41 mm

TRAVANCORE Wallards, 5. 12 1904 (R P Favre)

Type in the British Museum Described from two examples.

98. Philopona signata, Duvivier

Hyphaus signata, Duviv, Ann Soc Ent. Belg. xxxvi, 1892, p 429

Body oblong-ovate General colour yellow-brown, scutellum piceous, the auteunæ (except the two or three basal segments), a long strips on each elytron extending from the depression within the humeral callus to the spical part, but not reaching the apical margin, the suture narrowly, the breast and the apices of the posterior temora, pitchy-black, the pitchy colour varies in intensity, and in some cases the elytral stripe is interrupted, but can be faintly discerned. The pronotum in some examples has a diffused pitchy-black colour on parts of the surface. The labrum is black, also sometimes a small area in the middle of the vertex.

Head with vertex strongly punctate (except a little elevated area in the middle, which is impunctate), the punctures being deep pits, sometimes confident with each other; interocular space

broad and rough, interantennal space comparatively broad, with one broad longitudinal elevation. Antennæ extending only a little distance beyond the base of the prothorax, and slightly thickened towards the apex, first segment long, thickened and club-slaped, second very short, thud slender, longer than fourth. from the fifth to the eleventh the segments are shorter, somewhat more thickened, and sparsely covered with hairs Prothorax broader than long, upper surface convex, rough, unpressed with smaller and larger punctures, lateral margins comparatively broadly explanate, sides not well rounded though converging towards the anterior and posterior angles, each of which is produced to a blunt point; transverse impression in front of the basal margin broad and punctate Scutellum small, triangular, broader than long, impunctate, with apex rounded broader at base than prothorax, confusedly, closely and strongly punctate, the punctures being finer towards the apex Underside finely punctate, shining

Length, 31-41 mm.

CHOTA NAGRUE · Koubir (Pere Cardon, type-locality), BARWAY (Père Cardon). BOMBAY: Belgium (Andrewes Coll.) PUNJAB Kangia Valley, 4500 ft, vii. 1898 (Dudgeon, Brit Mus.) CENTRAL PROVINCES Sindevai, Chandra District, 15 x. (C. S. Misra, Pusa Coll.) ASSAM Mazbat, Mangaldai District, 11-15. x 1910 (Kemp, Ind. Mus.) BENGAL Bijmehal, 5 vii. 1909 (Amandale)

This species was first described from one example from Kouin, collected by Père Cardon. In the British Museum there is a specimen, also collected by Père Cardon, from Barway, and this specimen bears the identification label "signata" in Jacoby's handwriting. The examples from various other localities listed above are referred to this species after comparison with the specimen labelled by Jacoby.

Type in the Brussels Museum

Occionychis japonica, Buly (which must be referred to Philopona), has a strong resemblance to Ph. signata; it is possible that they are the same species, but for the present, without further evidence, it is convenient to treat Ph. signata as a purely Indian species, having a wide distribution within that region, and evidently variable

Genus HYPHASOMA, Jacoby

Hyphasoma, Jac., Ann. Soc Ent. Belg. xlvn, 1903, p 110

GENOTYPE in proposing this genus Jacoby did not designate a genotype he described three species, viz H inconspicua, H submetallica and H. discipennis, after the diagnosis of the genus H inconspicua, Jac, is here designated as the genotype

Body oblong-ovate Head as broad as the width of the prothorax, vertex somewhat convex and usually impunctate, antennæ generally close together, with the carina between them well

Range. India, Burma, Malay Peninsula and the adjacent islauds, Japan

Key to the Species

1	Elytra metallic greenish-blue or greenish-	
	blublack	2
_	Ely tra without such colour	4
2	Small inserts, never longer than 22-3 mm	H. bevam, Baly, p 159
	Insect- alway- longer than 23-3 nm	3
3	Prothorax and legs yellowish, el trastrongly	[p 160
	punctate at the base length 5 mm	H nilapita, sp n,
	Prothorix and legs puleous, elvira finely	[p 161
A	punctate at the base, length 6 mm.	H submetallica, Jac,
4	Pron tum yellow-brown with four round	[p 162
	Pronotum without four black spots	H then acrea, Jac,
5	General colour piceous, elytra with a large	0,
•	yellowish oblong-ovate patch	H baly, Jac., p 162
	Elytia without such a patch .	6
6	Umform fawn-brown above, without	
	speckles, suture and margins of the	
	elytra all round completely stained with	[p. 163
	black	H tenurlimbatus, Jac.,
-	No such combination of characters	7
7	General colour testaceous, pr notum and	
	elytra similarly and strongly punctate, upper side of apex of posterior femora	5m 184
	black; length 5 mm	H femorals, Jac,
	No such combination of characters	8.
8	Length never less than 74-9 inm , general	•
_	colour brown or testaceous	9
	Length always less than 71 mm	10.
9	Elytial punctures raised, length 87 mm	[р 164
	(nuldne etamble)	H distincta, Jac,
	El tral punctures not raised	H indica, Baly, p 165
10	General colour above uniform brown, which	16
	varies from paler to darker shades General colour above brown, with the	15
	elvtra of much deeper colour, se fuscous,	
	piceous or deep brownish-black	12
	General colour above dirty brown, gene-	
	rally mixed with grey and mottled with	
	blackish specks	11
11	Body more or less nearly parallel-sided, suture and basal margin of elytra stained	
	with blackish-brown, first segment of	
	posterior tarsi not longer than the two	H. sta, sp n, p 166
	following segments together Body more broadened behind, suture and	11, d.m, ap 11, p 100
	basal margin of elytra not stained, first	
	segment of paterior tars longer than the	[p 167
	two following segments together	H dhusara, sp n,
12	Body narrowly oblong, 81 mm long, pro-	r_ 100
_	notum as strongly punciate as the surface	[p 168
	of the elvina	H obscuripennis, Juc,

	Body broader, more than Si mm long, pronotum less strongly punctate than the surface of the elytra	18
18	Elytra broad, precous with a maiginal fulvous band, length 4 mm	[p 169] H limbatipennis, lac
14.	Elytia with no marginal fulvous band. Body ovate with the elytial margins reflexed, elytra blackish with reflexed	14
	edges brown (typical form), otherwise uniformly coloured, length 5-5} mm.	H discipennis, Jac.
	Body more nearly parallel-sided, elytral margins not refl-red, the piceous colour	
	of the elytra lighter in the middle, length 4 mm	[p 170 H discordalis, Jac,
15	Third segment of antenne shorter than fourth	16
	Third segment of antennes not shorter than fourth	17
16	Antennæ extending to the middle of the body	H parvula, Jac,
	Antonne as long as, or exceeding, three- fourths of the body	H nigricornis, Jac,
17	differently coloured from the remaining	[p 172
	Antenna with the three basal segments of the same colour as the remainder, body	H inornata, Jac,
18	ovate, not elongate Body broadly ovate, colour pale brown,	18
	antenne as long as three-fourths of the body	H unicoloi, Jac,
19	No such combination of characters	19 [p 173 H intermedia, Jac,
147	Interantennal carina broader	H inconspicua, Jac, [p 178

99. Hyphasoma bevani, Baly.

Hyphasis bevani, Baly Ann Mag Nat Hist (5) 1, 1878, p 315

Body ovate Head, prothorax, scutellum, the three or four basal segments of the antenne, and the legs (except the apex of the femora), brown, scutellum brown, edged with kinck; apical segments of antennæ black, underside piceous, elytra obscure greenish-blue-black, the inflexed lateral margins of the elytra narrowly edged with black.

Head with ver(ex impunctate; frontal elevations contiguous, well defined, separated from the front by a transverse impression, the interantennal carina this kened. Antennæ extending to about the middle of the elvtra; first segment elongate, club-shaped, second shorter, these two somewhat thicker than the following segments, which are more or less nearly equal to each other Prothorax much broader than long, sides slightly rounded, antenor lateral angles this kened, broadly and obtusely truncate, oblique; upper side transversely convex, distinctly punctate, the punctures

being very fine; lateral margins moderately dilated, reflexed. Scutellum triangular with apex rounded and surface impunctate. Elytra slightly broader at the base than the prothorax, but generally broader behind; surface rather strongly and closely punctate, lateral edges inflexed and slightly concave. Underside prosternum oblong-quadrate, its lateral margins concave, its apex

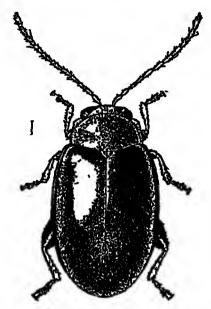


Fig 63 — Hyphasoma bevant, Baly

trancate and the surface nearly flat, outer edge of the posterior tibian serrulate near the apex; basal segment of the posterior tars slightly longer than the following two together

Length, 23 mm

SOUTHERN INDIA (type-locality) TENASSERIM Tavoy (Doherty).
PERAK (Doherty). PENANG (Doherty)

Type in the British Museum.

100. Hyphasoma nilapita *, sp. nov.

Body oblong-ovate. Elytra greenish-blue-black, scutellum black; prothorax and legs yellowish, posterior femora darker in the middle and at the apex, the three basal segments of the antenies brown, the rest blackish; underside brown, the central parts of the abdominal sternites darker

^{*} Sanskrit, "blue-yellow"

Head with vertex impunctate, interantennal carina and frontal elevations broad, separated from the vertex by an impressed transverse line. Antenuæ extending just beyond the middle of the elytra; first segment long and clue-shaped, second small, shorter than either first or third, the next four segments almost equal to each other, eighth to eleventh somewhat shorter, but equal to each other in length. Protherax much broader than long, upper surface very finely and remotely punctate, lateral margins somewhat explanate and reflexed, sides sloping, anterior angles not produced. Scutellum large, triangular, with apex rounded and surface smooth and impunctate. Elytra broader at the base than the protherax, confusedly punctate, the punctures being stronger and closer towards the base, much finer and more remote towards the apex. Underside shining, smooth, sparsely covered with fine hairs.

Length, 5 mm

TRAI ANOORE: Wallardi, 5. ix. 1905 (R. P. Faure) MALABAR COAST Mahé (M. Maindion)

Type in the British Museum Described from three examples

101 Hyphasoma submetallica, Jacoby.

Hyphasoma submetallica, Jac, Ann Soc Ent Belg. xlvn, 1903, p 111

Body broadly oblong-ovate Colour of underside, head and prothorax obscure testaceous to piceous; antennæ, apex of femora, tibiæ and tarsi black; elytra metallic dark bluish, scutellum blackish.

Head impunctate, frontal tubercles well developed, clypeus trangularly depressed in front. Antennæ slender; first segment elongate, club-shaped, second small, nearly half the length of the first or the third, the latter and the following segments almost equal to each other in length, except the eighth, ninth and tenth, which are somewhat shorter. Prothorax bronder than long, sides rounded with a narrow reflexed margin, anterior angles slightly produced outwards; surface almost impunctate, though under a high power a few very fine punctures are visible. Scutellum triangular with apex rounded and surface impunctate. Elytra broader at base than prothorax, very finely and closely punctate in front, the posterior portion nearly impunctate. Underside very finely pubescent; this deeply sulcate; first segment of hind tars as long as the two following segments together, claw segment moderately swollen, prosternum deeply longitudinally sulcate.

Length, 6 mm Nilgiri Hills Type in the British Museum.

102. Hyphasoma thoracica, Jacoby.

Haphasis thoracica, Jac . Ann. Soc Ent Belg xl, 1896, p 262

Body broadly oblong-ovate Colour of head and prothorax vellow-brown, the former with an ill-defined black spot at the vertex, the latter with four round black spots in a curved transverse line, the two middle spots slightly further forward than the lateral spots. Antennæ black, except the two basal segments, which are obscurely fulvous; elvita chestinit-brown with vellowish epipleura, scutellium yellowish, breast and legs blackish, middle

parts of the abdominal sternites piceous

Head impunctate, frontal elevations narrowly transverse, carina acutely raised, lower portion of face rather elongate, clyneus broad penultimate segment of palpi inclassate, terminal segment acute Antennes extending to the middle of the elytra; first segment elongate, club-shaped, second somewhat shorter than third, the latter slightly shorter than the fourth and each of the following segments, which are more or less nearly equal to each other Prothorax about one millimetre broader than long sides strongly rounded, with a narrow reflexed margin, anterior as gless thickened; surface sparingly and finely princtate Scutellum very broad, triangular, with the surface impunctate Elytra sunion hat convex, very finely but not very closely puncture. Un eside first segments of the posterior tarm longer than the two following segments together; tibus deeply channelled, with a sharp spine at the apex

Length, 51 mm

BOMBAY Beignum · Kanara (Andrewes Coll)

Tupe in the British Museum.

103. Hyphasoma balyi, Jacoby.

Henhasis balyi, J c , Ann. Mus Civ Genova, xxxii, 1892, p 938

Body oblong-ovate Colour piceous, underside somewhat lighter, antenum with the two bush segments yellow-brown, the rest black; surface of the elytra piceous, with a large yellowish

oblong-ovate parch, scutellum dirk fulvinis or picenus

Head vertex with a few very fine punctures, frontal tubercles broad, strongly raised, eyes very large, clypeus abruptly declivous Amenius extending to built the length of the elytra; first segment very long, second less than half the length of first and shorter than third, the latter somewhat shorter than the fourth, which is almost equal to the fifth, the following segments more or less nearly equal and each not much shorter than the fifth. Prothorar a little more than twice as broad as long, sales round, lateral margins explanate, the edges being reflexed, anterior angles produced outwards, posterior rounded, upper surface convex and sloping down at the sides, finely and more or less closely punctate. Scutellum comparatively broadly triangular, with apex rounded

and surface impunctate. Elytra hardly broader than the prothorax at the base, their surface confusedly, closely and finely punctate throughout, on the yellowish patch the punctures are dark centered; edges of the lateral margins slightly explanate and reflexed. Underside spursely covered with whitish pubes ence; posterior femora considerably thickened; claw-segment of the posterior tarsi dilated as usual

Length, 6 min

BURMA: Karen Mts., v-xn 1888 (L. Fea).

One example in the British Museum, bearing a name label in Jacoby's handwriting, is marked "type," but as the species was described from several examples the Genoa Museum may also laim to possess the actual type, although there is no doubt that the British Museum example is one of those from which the original description was drawn up

This species resembles *H* bipustulata, Baly, in colour, but the trontal tubercles in *H*. baly, are more strongly raised, the prothorax is more closely punctate and the elytial patch is more clougate; in *H*. bipustulata this patch lies wholly behind the

middle.

104. Hyphasoma tenuilimbatus *, Jacoby.

Hynhasis tenuslimbatus, Jac, Ann Soc Ent Belg xl, 1896, p. 262

Body oblong, colour uniform fawn-brown; antennæ (excepting the three basal segments, which share the colour of the body) black, suture and elyiral margins all round, narrowly black.

Head impunctate, eyes large, frontal elevations strongly raised, triangular, carina short and blunt, clypeus deflexed. Antennæ extending to the middle of the elytra, basal segment elongate, club-shaped, second short, half the length of the first or third, all the other segments are more or less nearly equal except the eighth, unith and tenth, which are slightly shorter, Jacoby's statement, "third joint one-half shorter than the fourth," is incorrect. Protherax transverse, much broader than long, sides evenly rounded, with a narrow reflexed mirgin, anterior angles thickened and alightly produced outwards; surface rather convex, almost impunctate, shining. Elytra parallel-sided, finely and closely punctate, their epipleura deeply concave. Universide: posterior femora greatly dilated; first segment of the posterior tarsi as long as the two following segments tog-ther

† One example has a few blackish spots, but these are apparently accidental

^{*} Jacoby wrote the specific name thus, with a masculine termination, although the species immediately following on the same page, was written Hyphasis thoracica, and he seems to have always treated Hyphasis elsewhere as a feminine word—ED

Length, 6 mm.
BOUBAY: Kanara
Type in the British Museum

105 Hyphasoma femoralis, Jacoby.

Hyphans femoralis, Jac., Ann Mus Civ Genova, xxvii, 1889, p. 198.

Body rounded-ovate. Colour testaceous, antennæ (the three basal segments excepted) and the upper side of the apex of the

posterior femora, black.

Head with vertex impunctate, frontal elevations broadly transverse, bounded behind by a deep impression. Antenna extending beyond the middle of the elytra; first segment long and club-shaped, second small, shorter than either first or third, the following segment more or less nearly equal. Prothoras much broader than long, sides rounded, narrowly explanate in front, anterior angles thickened and distinctly produced outwardly, posterior margin rounded, upper surface remotely, finely and distinctly punctate Scutellum mall, broad, triangular, with apex broadly rounded and surface impunctate. Elytra hardly broader at base than prothorax, rather convex, their epipleura concave, punctuation like that of the pronotuin Underside posterior femora strongly dilated, first segment of posterior tarsi as long as the two following segments together.

Length, 5 mm.

BURMA. Bhamo, vi. 1895 (L Fea) MALABAR COAST: Mahe, viii 1901 (M. Maindron) BIHAR Pusa, 28 viii 1916, on leaves of Anisomeles ovata

Type in the Genoa Museum.

There are two examples in the British Museum bearing an identification label in Jacoby's handwriting, and a locality label with the word "Calcutta." Whether the insects were actually taken at Calcutta is, however, doubtful

106. Hyphasoma distincta, Jacoby.

Huphams distincta, Jac, Ann Mus Civ. Geneva, xxxii, 1892, p 936

Broadly ovate. Colour pale testaceous; antennæ fuscous.

except the three basal segments, which are testaceous.

Head impunctate, frontal elevations broadly transverse Antennæ scarcely extending to the middle of the elytra, third and fourth segments equal. Protherax about two and a half times broader than long, sides strongly rounded with margin flattened, anterior angles produced outwards; upper surface rather convex, not perceptibly punctate. Elytra broadly evate, closely and rather strongly punctate, the punctures raised Underside: first segment of posterior tarsi as long as the

following three together. The rused condition of the elytral punctures is a peculiar character

Lewith, 83 mm.

BURMA Kaien Mts (Fea)

Type in the Genoa Museum. It is a unique example, which I have not seen.

107. Hyphasoma indica, Baly.

Hyphasis indica, Baly, Cist Ent. 11, 1879, p. 442

Ovate, moderately convex. Colour pale brown, with the elytra sometimes darker.

Head smooth, impunctate, interantennal space raised into a sharp carina, which is continued between the interocular

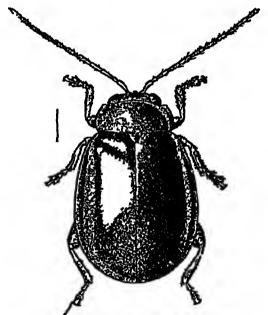


Fig ut -Hypna-onu radien, Baly

elevations, the latter are timesters and reparated from the vertex by a deep transverse impression. Antennæ slender, teaching the middle of the elytra, first segment long and clab-shaped, second small, half the length of the first or third, which latter is equal to the fourth, the following segments lizziff, shorter and almost equal to each other in length. Profuence much broader than long, sides margined, rounded, are the lateral angles the kened, hand angles broadly rounded; appearant according to moderately convex, almost imprinciple, but under a high power a few fine scattered punctures are visible, lateral margins.

somewhat explanate and with edges reflexed, there are no impressions along the basil margin. Scutellum triangular with apex rounded and surface imprinciate Elytra somewhat broades at base than prothorax, gradually and slightly broadened behind, surface moderately convex, flattened at the suture, distinctly but not very closely punctate, lateral margins slightly and narrowly explanate, their edges being reflexed. Underside prosternum twice as broad as long, with sides parallel, apex truncate, and surface longitudinally concave

Length, 72-9 mm.

Assam (type-locality); Sadiya (Doherty), Patkai Mts (Doherty),

Mampur (Doherty) Burma Ruby Mines (Doherty) Sinking

Gopaldhara, Rungbong Valley (H. Stevens); Mungphu (Atkinson).

Type in the British Museum.

108. Hyphasoma sita *, sp. nov

Body oblong, more or less parallel-sided. Colour dirty brown, mottled with blackish specks; the basul margin, suture and sides of the elytra and the edges of the scutellum are to a certain extent stained with brownish-black, but very often this dark

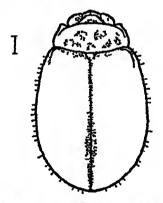


Fig 65 - Hyphasoma sita, Maulik

colour is interrupted, distal segments of the antennæ, from the fourth onwards, somewhat darker than the basal segments, underside coloured like the upper side.

Head with vertex impunctate, frontal elevations broad and interantennal carina well developed. Antennæ a little shorter than the body; first segment long and club-shaped, second shorter than either first or third, the following segments are almost equal. Prothorax much broader than long, sides nounded, surface convex, sloping at the sides in front, very finely and remotely punctate, the punctures being visible under a high power and in a suitable light; lateral edges reflexed, anterior

^{*} Sanskrit, "furrow"

angles not produced Scutellum small, triangular, impunctate Elytia broader than the prothorax at the base, more or less parallel-sided behind this, surface confusedly and closely punctate with moderately strong punctures; there is a fringe of remotely placed sette all round the edge. Underside finely pubescent; first segment of posterior tars not longer than the two following segments together.

Length, 51 mm.

CEYLON · Kandy, vi. 1908 (G. E Bryant)

Tupe in the British Museum

Described from five examples. There is a sixth example, which is somewhat larger but of the same shape, it is entirely dark pitch brown, but this coloration may be due to the extension and confluence of the normal dark mottlings.

109 Hyphasoma dhusara *, sp. nov

Body suboblong, somewhat wider behind Colour dirty grey-brown; the five specimens before me are all mottled with black, and three of them have a generally darker shade, underside dirty grey mixed with blackish colour, some parts being darker than others, distal segments of autennæ slightly darker than the basal three.

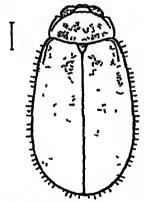


Fig 66 - Hyphasoma dhusara, Maulik

Hend with vertex impunctate, frontal elevations broad, interantennal carina well developed. Antennæ extending to about the middle of the elytin, first segment long and club-shaped, second shorter than either first or third; the following segments almost equal. Prothera: much broader than long; surface convex, sloping down at the sides in front, very minutely and remotely punctate, the punctures being visible under a high power and in a suitable light; lateral edges slightly reflexed, anterior angles

^{*} Sanskrit, "grey colour."

not produced Scutellum large, triangular, with surface impunctate. Elytia broader at base than prothorax, somewhat widened behind; there is a tringe of fine, remotely placed sets along the edge all round, surface closely, finely and confusedly punctate Underside covered with fine pull escence, first segment of posterior tars longer than the two following segments together.

Length, 53-63 inm.

CELLON Kandy, vii and ix. 1908 (G. E Bryant); one

specimen was taken in September, the remainder in July

Type in the British Museum Described from five specimens. The darker specimens of this species (which are smaller than the others) greath resemble U. tenulimbata, Jac, in general form. In one example the suture and the hard margins of pronotum and elytra and to a certain extent the sides of the latter are suffused with black, and in another there are traces of the black suffusion at the sides only. It is quite possible that the present species and H tenulimbata may be identical, the separation of the two is based on the latter having the suture and margins all round completely stained with dark colour, and the surface of the elytra without the mottling.

110 Hyphasoma obscuripennis, Jacoby

Hyphasis obscuripentus Jac, Moni Soc Lit Belg vii, 1900, p 122

Body narrowly oblong Colour obscure testuceous, antennæ blackish, with the three basal segments more or less tulvous, elytra darker than the promounn, fuscous, more or less marked with obscure testuceous, posterior lemora more or less piceous at

the apex, scutelium piceous

Head vertex impunctate, frontal elevations broad and triangular, separated from the vertex by a deep transverse impression, clypeus with a strongly raised central ridge, eyes large and round. Antenna scarcely extending to the middle of the elytra, all the segments comparatively lobust, first long and clubshaped, second short, third not much longer than second, fourth longer than third, the following segments ilmost equal. Prothorax twice as broad as long, sides teebly rounded with a distinct reflexed margin which widens in front, angles nut prominent, surface, seen under a high power and in a suitable light, very Soutellum broad, triangular, with surface finely punctate Elytra hardly broader at base than prothorax, vers impunctate minutely punctate, the punctuation being similar to that of the pronotum and consisting of a mixture of larger and smaller punctures, lateral edges reflexed, epipleura broad and concave

Length, 3½ nim

BURMA Tharrawaddy.
Type in the British Museum. It has only "Burma" as the

locality
This small species is of rather peculiar and uncertain

coloration, and is very closely allied to H discordates, Jac The differences between the two are, however, constant, and are as follows in H. discordates the antenna are longer, and their colour is yellowish (except that of the apical segments), the scattellum is yellowish and the elytra, although finely, are more distinctly and remotely, punctate, while lastly, the posterior temora have no black colour at the apex

111. Hyphasoma limbatipennis, Jacoby.

Hyphasis limbatipennis, Jac, Ann Mus. Civ. Genova, xxvii, 1889, p 197.

Small, ovate General colour fullons, the eight distal segments of the antennæ black; the elytra piceous with margins

narrowly fulvous

Heat with vertex impunctate, frontal elevations transversely subquadrate, strongly raised, clypeus with a very acutely raised straight ridge. Autennæ two-thirds the length of the body, slender, covered with fine hairs, basal segment elongate and club-shaped, second very short, third longer than second and somewhat shorter than first, the remaining segments are almost equal. Protherax much broader than long, sides rounded, slightly explanate in front, anterior angles slightly thickened but scarcely produced; surface impressed with a few very fine punctures only visible under a high power and in a suitable light Scutclium triangular, impunctate. Elytra slightly broader at base than protherax, closely, confusedly and finely punctate, lateral margins slightly explanate with edges reflexed. Undefinde first segment of posterior tarsi as long as the two following segments together.

Length, 4 mm

BURMA Bhamo, viii 1885 (Fea)

Type in the Genoa Museum.

Two examples bearing Fea's locality labels are in the British Museum, and one of these has an identification label in Jacoby's handwriting.

112 Hyphasoma discipennis, Jacoby

Hyphasoma discipennis, Jac, Ann Soc Ent Belg xlvii, 1908, p 112

Broadly otate Colour generally fulvous, elytra blackish with reflexed margins brown (type), sometimes the elytra are only slightly blackish, and in some examples they are entirely brown; antennæ nearly black, with the three basal segments inlyous; underside and legs testaceous

Head unpunctate frontal elevations transverse, lower portion of face concave, shuing. Antennæ slender, about half the length of the body, first segment elongate and club-shaped, third longer than second, fourth slightly longer than third; from the fifth

onwards the segments are almost equal, except the ninth and tenth, which are somewhat shorter. Protherax twee broader than long, anterior angles obliquely thickened, posterior angles rather obtuse, rounded, surface nearly impunctate, or with some very minute punctures visible under a strong power and in a suitable light. Scutellum broad, impunctate. Elytia very finely and rather closely punctate. Underside. first segment of the hind tarsi as long as the two following segments together, claw-segment moderately swollen.

Length, 5-51 mm Nilgiri Hills.

Type in the British Museum

Of much smaller size than H indica, Baly, and more finely punciate, separated from H. nurricoinis, Baly, by the much shorter anteunes, the less transverse thorax and different sculpture of the latter and of the elytra, while the differently coloured legs and other details distinguish this species from H. prespennis, Baly.

113. Hyphasoma discordalis, Jacoby

Hyphasis discoidalis, Jac, Ann Soc. Ent Belg xl, 1896, p 262.

Oblong-ovate General colour brown with the elytia obscure piceous, the latter colour being lighter in the middle, terminal four or five segments of antennæ fuscous, scutellum fulvous

Head with vertex impuncate, frontal elevations transverse, rather flat and separated from the vertex by a deeply impressed line, interantennal carriar cut short but distinct, clypeus deflexed. Antenuæ extending to a little distance beyond the middle of the elytra, first segment long, club-shaped, second shorter than either first or third, fourth almost equal to third, the following regiments almost equal Prothorax transverse, about one-half a millimetre broader than long, sides slightly rounded, margins reflexed, posterior margin almost straight, and not as Jacoby states "somewhat broadly produced at the middle,' anterior angles rounded, on the upper surface under a high power and in a suitable light very fine and scattered punctures are visible Scutellum triangular, imprinciate Elytra very closely, finely but distinctly punctate. Underside epipleura deeply concave, prosternum narrowly elongate

Longth, 4 mm

BOMBAY Belgaum (type-locality) Nuclei Hills
Type in the British Museum

114 Hyphasoma parvula, Jacoby

Hyphasis par cula, Jac, Notes Leyd. Mus vi, 1884, p 29 Hyphasis fee, Jac., Ann Mus Civ Genova, xxvii, 1889, p 196

Body ovate Colour pale flavous, the eight distal regments of the antennæ black

Head with vertex impunctate, frontal elevations broad, nearly contiguous, carina strongly laised, convex. Antennæ extending to about the middle of the elytra, covered with fine hairs, first segment elongate, club-shaped, second small, shorter than either first or third, the latter shorter than the former, fourth slightly longer than third, from the fifth to the end the segments are almost equal. Prothorax much broader than long, sides rounded, lateral margins somewhat explanate and reflexed, anterior angles obliquely thickened; upper surface almost impunctate, but under a high power and in a suitable light some very fine punctures are visible Elytra somewhat broader at the base than the prothorax finely and confusedly punctate

Length, 4 mm

BURMA: Bhamo, 1x. 1885 (Fea); Kalen Mts v. 1888 (Fea).
ASSAM: Mampur. Malay Archipelago Sipora, Mentawel

Islands, \-\1 1894 (Modighani)

I am uncertain of the whereahouts of the type of *H. parvula*: that of *H few* is in the Genoa Museum. There is a co-type of *H. few* and another specimen bearing Fea's locality label in the British Museum. An example from the Mentawer Islands (Modigliani) is also in the British Museum. I have compared a co-type of *H parvula* with a co-type of *H few* and am of opinion that they are the same species, and that it has a very wide distribution in Assam, Burma and the Mulay Archipelago

115. Hyphasoma nigricornis, Baly

Hyphasis myricoinis, Baly, Ann Mag. Nat Hist (5) 1, 1878, p 314, Jacoby, Aun Mus Civ Genova, xxvi, 1889, p. 196

Broadly nounded-ovate Colour yellow-brown, antennæ (the three basal segments excepted), scutellum and breast, piceous.

Head with vertex impunctate, frontal elevations transverse, quadrate, contiguous, separated from the vertex by a deep transverse impression, and caims strongly raised. Antennæ more than three-tourths the length of the budy, slender; first segment elougate, club-shaped, second small, shorter than either first or third, the latter shorter than the fourth, the following segments are almost equal, except the eighth, ninth and tenth, which are somewhat shorter Prothorar about three times as broad as long. sides broadly margined, edges reflexed, nearly straight and parallel behind the middle, rounded and converging in front, front angles ending in an obtuse, outwardly curved point, hind angles distruct, subscute, upper surface impressed with minute punctures, the interspaces still more minutely punctate. Scutchum triangular with apex rounded and surface impunctate. Elytra broader at base than prothorax and broadening much more behind, distinctly and rather closely punctate, with lateral margins broadly dilated and only slightly reflexed. Underside. proster num narrowly oblong, slightly sinuate at the sides, with apex obtuse and surface only slightly excavated; posterior tibis unsimed at the apex; first segment of posterior tars: longer than the two following segments together

Length, 51 mm.

NORTHERN INDIA (type-locality) UNITED PROVINCES Almora, Kumaon, July (II. G. Champton).

Type in the British Museum

116. Hyphasoma mornata, Jacoby.

Hyphasis inornata, Jac, Ann. Mus Civ Genova, xxxii, 1892, p 937

Blongate Colour testaceous, autennæ (the three basul seg-

ments excepted) fuscous.

Head impunctate, frontal elevations broad, subquadrate, carma acutely raised, lower portion of the face deflexed, eyes large. Intennæ extending to half the length of the elytra, the third and the following segments nearly equal in length. Prothorax more than twice as broad as long, the sides are but slightly rounded and narrowed in front, with an explanate and reflexed lateral margin; anterior angles very slightly produced autwards, upper surface extremely minutely punctate when seen under a strong lens, the punctuation a little more distinct at the sides. Scutellum broad, impunctate. Elytra scarcely more strongly punctate than the prothorax, the punctures closely placed. Underside clothed with fine pubescence, claw-segment strongly dilated

Length, 6 mm

BURMA Karen Mts. (Fen).

Type in the Genoa Museum, there are two examples in the British Museum.

This species is closely allied to H. unicolor, Jac., but is more elongate in shape and has the antennæ differently colonied

117. Hyphasoma unicolor, Jacoby

Hyphasis unicolo, Jac, Ann. Mus Civ Genova, xxvii, 1889, p 197

Broadly ovate, shruing. Colour entirely uniform pale yellow-

Head with vertex impunctate, frontal tubercles transversely subquadrate, carina short, acutely raised. Antennæ somewhat shorter than the body (in the single example before me they are one millimetre shorter), first segment long and club-shaped, second much shorter than either first or third, the following segments are almost equal Prother ax much broader than long, sides rounded, with somewhat explanate and concave lateral margins, anterior lateral angles rather broadly produced outwards, upper surface minutely and finely punctate, the punctures being visible under a high power and in a suitable light. Soutellum broad, triangular, impunctate. Elyera broader at the base than the prothorax, with lateral margins slightly explanate, and surface

minutely, confusedly and more or less closely punctate Underside: first segment of posterior taisi slightly longer than the two following segments together.

Length, 51 mm.

Thasserim Thagata, w 1887 (Fea)

Type in the Genoa Museum

There is one example in the British Museum Jacoby was of opinion that the females of this species are double the size of the males, but I have not enough material to test this view

118. Hyphasoma intermedia, Jacoby.

Hyphans intermedia, Jac, Ann Mus Civ Genova, xxii, 1892, p 937

Ovate Colour fulvous or obscure piceous, autennæ sometimes fuscous

Head impunctate, clypeus with an acutely raised central ridge. Antennæ two-thirds the length of the body; all the segments, with the exception of the second, are of nearly equal length -Piothorax nearly three times as broad as long, sides with a rather broad explanate margin, scarcely rounded, anterior angles obliquely produced; surface very finely and remotely punctate, distinctly, depressed in front of the scutellini. Scutellini broad and impunctate Elytra oblong-ovate, more strongly but not more closely punctate than the prothorax Underside first segment of posterior tarsi elongate

Length, 5 mm

BURMA: Karen Mts (Fea)

Type in the Genon Museum I have not seen this species, which was described from two examples only. H intermedia is closely allied to H unicolor, Jac, and H internata, Jac, but differs in having the prothorax and elytra more distinctly, although finely, and remotely punctate; in the two allied species these parts are either closely or extremely finely punctate, while in H. internata the sides of the prothorax are also strongly rounded.

119 Hyphasoma inconspicua, Jacoby.

Huphasoma enconspicua, Jac., Ann Soc Ent Belg alvii, 1904, p 111.

Oblong-ovate, shining. Colour entirely obscure testaceous Head impurctate, with a strong transverse groove between the eves, frontal tubercles and interantennal carina well developed, but more or less broad, clypeus concave at its lower portion. Antennæ extending to about the middle of the elitra; first segment elongate and club-shaped, second shorter than either hist or third; the following segments of almost equal length. Prothorax somewhat less than one millimetre broader than long, with sides rounded and rather broadly margined, their edges

slightly reflexed, anterior angles slightly truncate obliquely, not produced, surface almost impunctate, but under a high power and in a sintable light some very fine scattered punctures are Scutellum impunctate Elytra with punctures only visible when seen under a very strong lens, obling and parallelsided, their epipleuia broad and concave Underside pusierior tibies with a strong spur, first segment of posterior tarm as long as the two following segments together

Length, 4 mm.

NII GIRI HILLS. (type-locality) Type in the British Museum

SECTION III SUBSECTION III

Pronotum and elytra not pubescent (except in Ophrula hirauta. p 230), claw-segment of hind tais not greatly dilated, front coxal cavities closed or almost closed behind.

Key to the Genera

Eigeral punctures either quite regularly arranged in longitudinal rows, or at least there is sufficient indication of the punctures tending to form longitudinal lows 2 Fram more or less rounded, strongly convex Form oblong, not strongly convex 3 Antenne moderately long, extending to about the middle of the elytin Antenna extending to the base of the promotum or a listle distance beyond 4 Apical segments of antenne districtly fi ittened Apical segments not flittened, antennæ haidly reaching the humeius 5 Second and third segments of antenne very -mall, glabular, and equal 🖫 Second and third segments not very small and globular, and not equal 6 Antennal regments beyond the thind trungularly expanded, surface not metallic Antennal segments beyond the third not triangularly expanded, surface metallic

7 Humerus strongly pronounced

Humerus not strongly pronounced 8 Prothoga broader than long, with a transverse depression on the sur-

face, surface not metallic Prothoral quadrate, surface metallic

1 Elytial punctures completely confused 10 Б EUPHITREA, Baly, p 177 ACROGRYPTA, Baly, p 180 p 183 GLAUCOSPHÆRA, gen n, CRROTRUS, Jac, p 185 [p 187 CHALPNOSOMA, Jac, 8

Ci konica, Jac, p. 192 Vi bota, Ta", p. 194

9

10 Prothorax deeply constricted behind Prothorax not constricted behind

11 In the middle and hind legs the tibia has an excavation on its outer edge, extending from the apex upwards for a certain distance, a d set with bristles, body small (1½-9 mm), ovate, narrowed in front and behind, elvia punctate-striate

No such combination of characters

12 Body massive, large (8-17 min. long, the largest among these genera), broad, oblong, colour of upper side either uniform red-blown, or with black of darker of lighter brown spots and patches arranged transversely on a brown background, or much chequered, irrotated, or speckled with black or blown spots, without my transverse impression at the basal margin of the pronotum

No such combination of characters.

13 Prosternum highly elevated; the anternu projection of the mesosternum fits into an emargination, depression or cavity of the prosternum

Prosteinum squarely trancate behind, with the end at the same level as the mesosternum, which meets the truncate end of the prost inum

14. Pronotum uniformly convex, without any depressions at all

Pronotum with a depressed area, generally in front of the basal margin

15 Small ovate insects those from our regions 2½ min or less in length Larger insects, always much longer than 2½ min

It The aute-basil transverse impression extends almost to the sides of the pronotum and is not definitely terminated by a longitudinal impression on either side, it is interiupted in the middle and thus divided into two depressions, one on each side of the middle line

The ante-ba-al transverse implession does not extend to the sides and is terminated on each side by a short longitudinal line

BIMALA, gen n, p 195.
MICBAI H PHONA, Jac,

[p 197
EUDOLIA, Jac., p 198.
11

[p 202 CHALIOCNEMA, Stephens, 12

13. 14

Podontia, Da'man, p 220

OPHRIDA, Chap, p. 228

20

15

CREPIDODERA, Chevr,

16

17

18

17. Anterior and posterior angles of prothorax produced Asutosha, gen. n, p 28%. Anterior and posterior angles of prothorax not produced GOPALA, gen n. p 240 18 Elytral punctures partially regularly arranged in rows, ante-basal impression on the pronutum shallow GRIVA, gen n, p 241. Elytral punctures extremely regularly arranged in longitudinal TOWS . ante-basal implession deep 19 19 Elytral rows of punctures arranged in PSEUDODERA, Balv. p. 243. Elytral 10ws not in pairs, all nearly equidistant from each other XUTHRA, Baly, p 246 20 Besides bearing the ordinary punctures, the whole of the upper surface 13 21 granulate Upper surface not granulate 22 Body ovate, strongly convex AMPHIMPLA, Chap, p 250 Body oblung, not strongly convex OLITFA, Balv. p 252 22 Body spheroidal, strongly convex Body not spheroidal, ovate (narrowed in front, broadened behind), not strongly convex 25 23 Body extremely small (11-14 mm apical segments of the long), antennæ forming a thickened club Kamala, gen n. p 255 Body always much longer than 13 mm, apical segments of the antennæ not forming a club 24 24 Head with a raised longitudinal area on the vertex, antenue thicker NFORTHALA, nom nov Head without any elevations at all, absolutely level, autennes slender [ORTHATA, Jac], p 259 SPHEROPLEURA, Jac, [p 265 Pronotum impunctate 26 Pronotum distinctly punctate 27 26. Post-basal part of the elytron depressed ELTTROPACHYS, Motsch [PFXODORUS, Jac], p 267. No such depression on the post-basal PANILURUS, Jac, p 269 part of the elytron Lateral margins of elvtra expanded ERYSTUS, Jac, p 271 or broadened Lateral margins of elytra not expanded at all 28 28 Small ovate insects, with a short longitudinal impression on each side of the pronotum perpendicular to the basal line, opposite to these impressions there are in some cases [p 278. similar longitudinal impressions Podagrica, Foudras, perpendicular to the front margin No such combination of characters .

23) Body large (5) mm long). convex, first segment of posterior tars: equal to the two following segments

together .

Рид LOTA Jac, р. 280

[p 281. Aprinonella, Jac.

Genus EUPHITREA, Baly.

Euphytrea, Baly, Trans Ent Soc London, 1875, p. 27 Euphymasia, Jacoby, Stettin Ent Zeit lx, 1899, p. 310

GENOTYPE, Euphitrea wallacei, Baly (Sumatra, Java).

Body rounded, convex. Head short, broad, frontal tubercles not prominent, somewhat oblique, interantennal carina obsolete. Antennæ moderately long, hardly extending to the middle of the elytra; the three basal segments generally without hairs, the rest pubescent and generally slightly thickened. Protherax broader than long, somewhat convex Scutellum small, triangular, with aper pointed. Elutra broader at base than prothorax, confusedly and closely punctate; their epipleura broad, continued to the apex, where they are somewhat narrowed, Underside anterior coxe raised, the cavities being closed behind; prosternum channelled along the middle; mesosterium short, erect, hidden by the apex of the metasternum; metasternum extending between the mesocoxe to the prosternum; legs moderately robust; posterior femora moderately thickened; tibia broadened towards the apex. flattened and somewhat sulcate on the outer surface, the posterior pair armed with a small spine at the apex; claws appendiculate.

Range. India, Sumatra, Java.

The type of Jacoby's genus Euphymasia is E. dohrni, from Sumatra, the type of which is in the British Museum; after comparing it with Baly's type of Euphitrea wallacei, also in the British Museum, I have no doubt that the two are the same species. This was already recognized by Dr. Gahan when he arranged the Halkion and Galeroun in the collection of the British Museum—an observation which was incorporated by Bryant in his paper "Notes on Synonymy in the Phytophaga,"

Ann Mag. Nat. Hist. (9) xii, 1923, p. 143.

Key to the Species

Euphitrea (?) birmanica, Harold (p. 179), is not included in the key, owing to the uncertainty as to its identity and generic position.

YOL, II,

120. Euphitrea indica, Jacoby.

Euphitrea indica, Jac, Ann Soc Ent Belg xlvm, 1904, p 891

Body broadly rounded Colour pale fulvous.

Head broad and flat, impunctate; trontal elevations and carina absent. Antennæ widely separated, not extending to the middle of the elytra, the three basal segments shining, the rest opaque and pubescent, first segment the longest, club-shaped, second short, the third and following segments nearly equal. *Prothoras* about three times as broad as-long, sides nearly straight, basal margin broadly but slightly produced at the middle, the surface

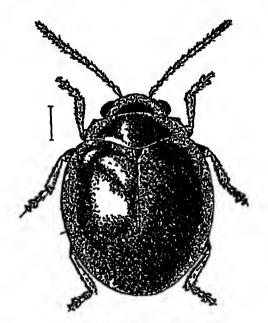


Fig. 67 - Euphsti ca indica, Jac

under a low power appears impunctate, but is really finely punctate, the punctures being much finer than those of the elitra Soutellum triangular, impunctate. Elytra finely, very closely and irregularly punctate, their epipleuia comparatively broad Undersule prosternum narrow, longitudinally sulcate, metasternum produced into a transverse riage.

Length, 72 mm. Anaimalai Hills v, vi, vii (Andrewes Coll, NILGIRI HILLS British Museum).

Type in the British Museum.

Closely allied to E wallaces, Baly, but smaller, without seneous gloss; the antennæ are less robust and the prothorax is distinctly shorter.

121. Euphitrea foveicollis, Jacoby.

Euphitrea fovercolles, Jac , Trans Ent. Soc Lond 1893, p. 149

Body broadly ovate, rounded Colour fulvous, with a bronzy

or violaceous sheen on the upper surface.

Head rugosely punctate (the rugosity is pronounced in the type-specimen, but it is less marked in some other examples, which have very fine punctures), deeply and obliquely channelled above the eves; clypeus thickened and widehed between the antennæ, impunctate, palpi slender Antennæ not extending to the middle of the elytra, first segment long and club-shaped, second shorter, but equal to the third, from the fourth the segments are somewhat thickened and pubescent and more or less nearly equal. Prothorav twice as broad as long (3×11 mm.), anterior margin straight, auterior angles produced outwards, aides rounded. posterior margin simuate at the sides; disc very finely and closely punctate, with a lirge forea near the anterior angles; the surrounding edges of this foven are thickened, and the space behind is very finely strigose, the tover and the strigose nature of the pronotal punctures are pronounced in the type-specimen, but in other examples the foves are feeble, and in some obsolete. Scutellum triangular, with apex pointed and surface impunctate, Elutia broader at base than prothorax, rounded and moderately convex, strongly, closely and confusedly punctate; the interstices in some examples seem rather wrinkled, and there is an impunctate space along the lateral margin, thickened in front and accompanied by a low of deep punctures, epipleura very broad, narrowing towards the apex and transversely wrinkled. Underside · abdomen closely punctate, tibize deeply sulcate, anterior coxal cavities closed behind

Length, 72 mm

Assam: Naga Hills, Dunsiri Valley (type-locality, also specimens in the Indian Museum). Sikkim. Mungphu (Indian Museum); Gopaldhara, Rungbong Valley (H. Stevens).

Type in the British Museum

The following insect is unknown to me, and from the short diagnosis in Latin, of which a translation is here given, it is not possible to place the species with certainty in any genus Probably it belongs to the genus Oithaea, Jac.

Euphitrea birmanica, Harold, Col Hefte, 1879, xvi, p. 231.

Sub-rotund, ferruginous, with elytra blue, fairly regularly scriate-punctate, the punctures towards the apex smaller and less regularly arranged, lateral border of elytra from the base to be and the middle smooth and somewhat thickened; thorax densely punctulate, the base having on each side a short impressed line, lateral margin smooth and separated from the dis-

180 HALLICIN 1

by a median indefinite impression, epipleum broad, purplish, transversely wrinkled, antennæ reddish-testaceous L 6 mm Bulma Close to En micans, Baly, but easily to be recognised by the blue and more finely punctured elytra

Genus ACROCRYPTA, Baly

Acrocrypta, Baly, Journ of Fnt 1, 1862, p 457

GENOTIPE, Acrourypta monthots, Baly (Cambodia)

Body ovate, strongly convex, narrowed in front Head broad, eyes strongly convex, entire and ovate. Antennæ short, much thickened from the fourth segment orwards and laterally flattened Maxillary palpi with the penultimate segment strongly dilated, subglobose, truncate at the apex. Prothorax much broader than long, basal margin widely arched, the hind angles being drawn forwards, sides short and slightly rounded at the front angles the surface is convex and rounded, and each of the four angles bears a fine erect seta Scatellum triangular Elytra clusely, confusedly and finely punctate, humerus raised, convex Underside anterior coxal cavities closed behind, tibiæfinely channelled on the dorsal side, posterior temora strongly thickened and channelled on the underside, class widely separated, with a basal thickening under each.

Range Indo-China, Borneo, Sumatra Philippines, Assain,

Buima

Key to the Species

Pronotum black
Pronotum not black
Longer insects (7 mm), elytral punctures fine
Smaller insects (6-6½ mm), elytral
punctures larger

A momenta, sp n., p 181
A assumences, fac, p 182

122. Actocrypta intermedia, Jacoby

Spherometopa intermedia, Jac, Alin Mus Civ Genova, Nali, 1892, p 925

Body fulvous, scutellum dark fulvous, head, antenne, pro-

thorax and legs, black or piceous

Mead with some few fine punctures, frontal elevations rather obsolete, penultimate segment of maxillary palpi strongly dilated Antennæ short, extending a little distance beyond the humerus, with the fourth and following segments thickened and densely covered with stiff hairs, from the fifth or sixth onwards the segments are distinctly and progressively flattened, the terminal segment being pointed Prothorar short, much broader than long, longest in the middle; sides nearly straight, anterior angles obliquely thickened, surface very finely and more or less sparsely

punctate, the punctuation being less distinct than that of the elytia Scutellum triangular, with apex pointed and surface impunctate Elytia very convex, slightly widehed behind the middle more distinctly punctate than the prothorax, the punctures very closely and evenly placed throughout Underside very thinly covered with fine hairs, epipleura broad at base and much narrowed towards apex, other structures as under the description of the genus

Length, 5-61 mm

BURMA. Palon, vin-ix (Fcu)

Type probably in the Genoa Museum. There are two examples in the British Museum from the same locality, with Fea's labels, one being also marked "type." On the labels bearing the name of the insect Jacoby indicates the genus as Sphenode ma, but his published description is under the genus Sphenometopa. This species, however, cannot be placed in either of these genera, because it has its anterior coval cavities closed behind, while in the genera Sphenode ma and Sphenometopa they are open

123. Acrocrypta momenta*, sp. nov.

Body broadly ovate and convex Colom dark reddish-brown, with the antennæ and legs black, and the head and pronotum

bearing obsolescent black patches in the middle

Head finely punctate, trontal elevations flat Autennæ short, passing a little distance beyond the base of the pronotum, much thickened and slightly flattened gradually from the fourth segment onwards, first segment elongate, club-shaped, second small, shorter than third, the six apical segments covered with bristles, the last small and pointed Prothorar much broader than long, front margin straight, front angles thickened, sides short and rounded, hind angles drawn forward, as is typical in this genus, and slightly thickened, basal margin gently smurte on either side, the thickened angles having pores bearing setæ; surface convex from side to side, very finely punctate throughout large, triangular, with apex rounded and surface smooth and im-Elytia broader at base than prothorax; humerus convex, rounded; surface confusedly and finely punctate throughout; in this species the elytral punctures are finer than in A assamenses, Jac; along the marginal area on each elytion the punctures are arranged in three rows. one has along the extreme margin, while within this is an interspace, broader near the base and narrower towards the apex; internal to the interspace are two parallel rows, placed closed to each other; this interspace and another, arising rather indistinctly behind the humerus,

^{*} Although the modern spelling of the place in Burma from which this species takes its name is Moment, the name momenta has been formed from the old spelling Moment, by which the locality was known in the days of the collector Doherty

when viewed at certain angles, are seen to be feebly raised. Underside punctate and sparsely covered with fine hairs tibis, posterior femora and claws as described under the genus.

Length, 7 mm

BURMA. Momerk [Momert] (Doherty)

Type in the British Museum. Described from one example. This species is closely allied to A. assamensis, Jac, but differs from that species in its larger build and finer elytral punctures

124. Acrocrypta assamensis, Jacoby

Acrocrypta assamensis, Jac , Trans Ent Soc. Lond 1878, p 151

Body broadly orate and convex Colour dark reddish-brown. the antennæ (from the third segment onwards) and legs black, while the two basal segments of the antennæ may be tinged with dark brown

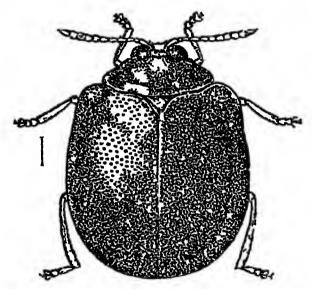


Fig 68 — les ocrupta assamenses, Jue

Head very finely punctate between the eyes, frontal elevations flat, palpr strongly increasate. Antennæ short, passing a little distance beyond the base of the pronoting, from the fourth segment gradually thickened and pubescent. first segment long and thickened at the apex, second small, slightly shorter than third, the fast segment small and pointed. Prothorae more than twice as broad as long, front margin straight sides short and rounded, posterior margin smarte towards each side, the medium lobe roundly produced, unterior angles obliquely thickened each posterior angle with a small swelling, all the four angles each hearing a set i smiling convey very minutely punctate throughout.

Elytra convex, punctured as closely as the prothorax but much more strongly, the interstices also here and there impressed with minute punctures; along the margin there are three rows on each elytron, one along the extreme margin, while internal to it is an interspace, broader at the base and narrower at the apex, and internal to this interspace are two parallel rows, placed close to each other; this interspace and another arising behind the humerus, viewed at certain angles, are seen to be feebly raised. Underside closely and finely punctate, sparsely covered with fine hairs, each posterior tibia with a strong spur at its apex, first segment of posterior tarsi as long as the three following segments together, claws thickened at the base

Length, 6-6} mm

Assam: Patkar Mt- (Doherty)
Type in the British Museum

GLAUCOSPHÆRA, gen nov.

GENOITEL Amphimela cyanea, Duvivier

This genus is proposed to include Amphimela cyanea, Duviviei, which was first described from Kurseong, Darjeeling, and of which I have before me many examples from Himalayan districts. It agrees with the genus Amphimela in having the points of insertion of the antenne wide apart, but differs from it in the shape and

sculpture of the body.

Body narrowed in front, gradually broadened and attaining its widest point about the middle, and then again narrowed behind, but not so much as in front. Upper surface spheroidal and confusedly punctate. Antennæ short, passing only a little distance beyond the base of the pronotum, slightly thickened towards the apex. Interantennal space smooth and without elevations. Pronotum broader than long, the sides margined and very slightly concave, each of the anterior and posterici angles bearing a fine seta. Underside anterior coxal cavities closed behind; prosternum narrow; hind femora considerably thickened, tibiæ not channelled and not furnished with a spine at the apex; claws appendiculate.

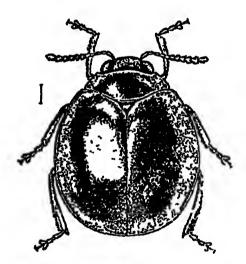
Range The Himalayas.

125. Glaucosphæra cyanea, Duvivier.

Amphimela cyanea, Duvi, Ann Soc Ent Belg axxvi, 1892, p 420

Body subrotund Dorsal surface very shining dark blue with violet reflections, ventral surface black mixed with purple; scutellum black, the edge of the labrum and the last segment of the maxillary palpi pitch-brown; the four basal segments of the antennæ vellow-brown.

Head broad; interorular and interantennal spaces, though without carine, not quite flat, but slightly depressed in the middle; eyes more convex than in Amphimela, with a few strong punctures between them. Antennæ short, passing a little distance beyond the base of the pronotum, the seven apical segments thickened, hairy and almost equal, except the last, which is pointed at the apex; first segment long and club-shaped, second thicker than third, which is almost equal to the tourth. Prothorax broader than long (length 1\frac{3}{4} or 2 mm, breadth 1 mm), posterior margin a wide aich, anterior almost straight, sides convexly rounded, very slightly margined, anterior angles almost right angles, posterior obtuse, surface gradually and uniformly convex from side to side, and very finely and obsoletely punctate



Ing 69 -Glaucophana cyares, Duriner

Scutellum triangular, broader than long Elytia haddy broader at the base than the prothonix, gradually broadening behind, strongly rounded at the sides, surface moderately convex, irregularly and very finely punctate, the punctures being very shallow Underside punctate and sparsely covered with hair, epipleura of ciytra slightly concave, very broad at the base, gradually narrowing towards the apex, other structures as stated under the description of the genus.

Length, 4 mm
EASTERN HIMALAYAS Kurseong (P. Bract). UNITED PROVINCES West Almora and West Bhatkee, humaon, v 1920, fourteen examples (H. G. Champson)

Type in the Brussels Museum.

Genus CEROTRUS, Jacoby.

Cerotius, Jacoby, Notes Leyd Mus vi, Jan 1884, p. 18 Ameeiu, Jacoby, Notes Leyd Mus vi, Oct. 1884, p. 207

GENOTYPE, Cerotrus melanocephalus, Jac. (Sumatra)

Body oblong and parallel-sided. Colour not metallic. Head exserted, with the eyes large and entire, and the maxillary palpi filiform, their last segment being conical; antennæ filiform, as long as the body, second and third segments very short, almost globular in shape and equal, the remaining segments triangularly

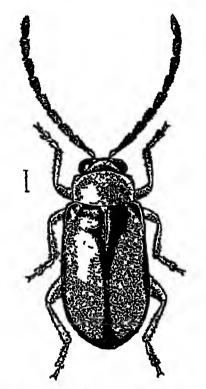


Fig 70 - Ceretrus nigromarginatus, Jac

expanded Prothorar transverse, narrow, with sides stringht, and anterior and posterior margins parallel. Scutellum truingular. Elytic parallel, closely and irregularly punctate, their epipleura continued beyond the middle. Underside: tibise unarmed, first segment of hind tarsi equal to the three following segments together; claws appendiculate; prosterioum narrow but distinct, anterior coxal cavities closed behind, posterior femora only moderately incressate

Range India, Sumatra

Key to the Species.

Underside entirely light brown ... C nigromarginatus, Jac Underside partly piccous not entirely brown C apicalis, Jac

126 Cerotrus nigromarginatus, Jacoby.

Cerotrus mgromargmatus, Jac., Ann Mus Civ. Genova, xxxii, 1892, p 940

Colour testaceous, antennæ (except the base of the first segment, which is brown) and tarsi black, elytra testaceous or somewhat lighter, with lateral, sutural and apical margins black, this black margin is slightly widened towards the base at the suture, while in one variety the elytra may be entirely black, scutellium light brown

Head impunctate, frontal elevations narrow but distinctly laised. Antennæ long, extending nearly to the end of the elytra, second and third segments extremely small and equal, the following segments rather flattened and widened. Prothorax more than twice as broad as long, angles tuberculiform, sides slightly rounded before the middle, surface rather convex with a few minute punctures. Scutellum trangular Elytra very strongly but not very closely punctate. Underside. posterior temora slightly thickened, tibus unarmed, claws appendiculate, anterior coxel cavities closed.

Length, 5 mm
BURMA Karen Hills, Cheba (Fea)
Type in the Genos Museum

127 Cerotrus apicalis, Jacoby

Cerotrus (Ameria) apacalis, Jac, Ann Mus Civ Genova, xxvii, 1889, p 236

Body oblong-orate Colom pule testaceous, lower portion of head whitish, vertex and base of the head, breast and scutellum piceous, elytra with sutural and lateral margins narrowly, and apex broadly, black, in one variety the elytra have a subapical, transverse, angulate, black band, antenuæ yellowish-white, with the six or seven terminal segments fuscous at their apices; surface of pronotum nearly white, apices of hind tibiæ fuscous

Head with a very few fine punctures, trontal elevations rather broad and flat, divided by the broad apex of the clypens. Antennæ two-thirds the length of the body; third segment one-half longer than the second, fourth as long as the two preceding segments together Prothoran nearly three times broader than long, sides counded at the middle, anterior angles directed outwards, posterior margin counded, surface shining, distantly mpressed-with rather large punctures. Elytra a little more

closely but scarcely more strongly punctate. Underside. first segment of the posterior tarsi as long as the three following segments together; claws appendiculate, anterior coxal cavities closed behind.

Length, 3\(\frac{1}{2}\)-5 mm.

BURMA: Bhamo, vii 1886 (Fea).

Type in the Genoa Museum.

It must be pointed out that the difference in the lengths of the second and third segments of the antennæ, which ought to be equal in the genus *Cerotrus*, makes the generic position of this species somewhat doubtful, but without more material it is not possible to change its position at present

Genus CHALÆNOSOMA, Jacoby

Chalanosoma, Jac, Trans. Ent Soc Lond 1893, p. 157.

GENOTYPE, Chalænosoma metallicum, Jacoby.

Body oblong-ovate, often convex behind. Colour generally metallic green, often with a cupreous sheen. Head vertex convex, frontal tubercles well developed, separated from the vertex by a deep transverse impression, eyes strongly convex Antennæ long, generally of uniform thickness throughout; second and third segments very short, generally equal, fourth segment the longest, the following segments almost equal. Prothorax broader than long, rather convex, posterior margin rounded, surface without basal depressions, the four corners often angulate, each bearing a fine setu. Elytra with a strong postbasal transverse depression, consequently the basal area is convex; broader at the base than the prothorax; confusedly and closely punctate; epipleura broad, extending to the apex. Underside legs long and slender, posterior temora but moderately thickened, all the tibes unarmed, first segment of the posterior taisi longer than the two following segments together, claws appendiculate, prosternum very narrow, the anterior coval cavities closed behind.

In some species of this genus the males show secondary sexual characters, having the first segment of the front and middle tarsi enlarged and the antennæ, except the three basal segments, some-

what thickened

Range South India.

This genus may be regarded as transitional between Halricinz and Galericinz

Key to the Species

3

Pronotum with a broad median or anto median transverse depression, which may be more or less pronounced.

Pronotum without any depression.

2 Pronotal transverse depression quite distinct, elytra without transverse purple bands.

Pronotal depression less pronounced in the middle, more so at the sides, rather shallow elytia with transverse nurple bands or patches

3 Antenne about one millimetre shorter than the length of the meet, granulation of the surface of the elvin not distinctly visible

Autennæ shorter, granulation of the surface of the elytra distinctly viable

4 Pronotum closely and strongly punctate. and besides having punctures the surface is granulate

Pronotum scarcely perceptibly punctate, its surface pot granulate

C fulcitar ser, lac., p. 188

C antennata, Jac, p 189

C' viridis, Jac, p 190

C cupiea, Inc. p 190

C metallicum, Jac, p 191

128 Chalænosoma fulvitarsis. Jacobu

Chalænosoma fulvitarsis, Jac, Ann Soc Ent Belg xlvii, 1903, p 115

Colour metallic Body ovate, somewhat widened behind. cupreous above and blush, stained with cupreous, beneath,

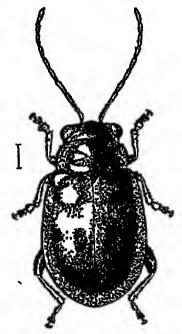


Fig 71 — Chalenosoma fulnitarsis, Jac

antennæ, tibiæ, and tarsi vellow-brown; labrum piceous, elytra with a transverse patch across the basal convex area and two patches transversely placed across the middle, purplish margined with green; apical purplish patches are absent; this scheme of coloration is that of the type, but there may be some variation in

this respect

Head with vertex convex and finely punctate, not granulate, frontal elevations broadly transverse, clypeus triangular, convex Antennæ extending to about the middle of the elytra, first segment long and club-shaped, second and third very small, as is usual in the genus, the fourth the longest, the following segments more or less nearly equal Protheras broader than long, sides feebly rounded, the four angles acute, the surface with fine and scattered, not-granulate, punctures, across the middle is a shallow sulcus which is more distinct at the sides than in the middle Scatcillum triangular, its surface impunctate and not granulate Elytra broader at base than prothoras, with the usual post-basal transverse depression, the surface strongly and closely punctate throughout, the punctures being coarser in the depression than elsewhere Unnderside. first segment of the front and intermediate tars dilated in the male

Length, 5-5½ mm. Nilgiri Hills

Type in the British Museum

When studying the insects of this genus, which is apparently confined to bouth India, it is difficult to resist the conception that at least three species, namely Ch metallica. Ch fulvitaries and Ch cupiea, are one and the same, they present differences which are more pronounced in coloration than in structure, although the latter is not absolutely uniform; but it seems impossible to settle this point without applying the test of experimental breeding

129 Chalænosoma antennata, Jacoby.

Chalænosoma antennata, Jac, Ann Soc Ent Belg xlvn, 1903, p 115

Body rather elongate, scarcely widened behind Colour metallic

green, antennæ and legs yellow-brown; labrum black.

Head scarcely perceptibly punctate, minutely granulate; frontal elevations indistinct, bounded behind by a deep foven; clypeus broadly trangular. Antennæ extending nearly to the apex of the elytra; first segment elongate, club-shaped, second and third segments very small, as is usual in the genus, fourth segment the longest, this and the following segments robust, rather widened and slightly curved in the male. Prothorax about twice as broad as long, sides nearly straight; surface finely granulate and with some very minute punctures, rather strongly transversely sulcate. Scutellum triangular, with surface impunctate. Elytra froader at base than prothorax, with a feeble depression beside the base, strongly and closely punciate, the interstices slightly transversely wrinkled, the extremely fine granulation of the surface not distinctly visible. Underside covered with its scale.

Length, 4½ mm, length of antenna, 3 mm.

PONDIGHERRY (type-locality). NILGIRI HILLS (Andrewes Coll.)

Type in the British Museum

This species, although closely resembling Ch virids in coloration, differs in the possession of long and robust auteums in the male, and in having the elytia strongly punctured and wrinkled In the female the autenum are thinner, but the elytral punctuation is the same

130 Chalmnosoma viridis, Jacoby.

Chalænosoma wridis, Jac, Ann Soc Ent Belg. xivii, 1903, p 113

Body narrowly elongate Colour metallic green above, underside blackish or greenish, legs fulvous; labrum fulvous; antennæ

yellow-brown, scutellum purplish.

Head with vertex very finely and sparsely punctate, surface granulate, frontal tubercles small, oblong. Antennæ rather long, extending to a little distance beyond the middle of the elytra, first segment elongate and club-shaped, second and third very small, as is normal in the genus, fourth elongate, fifth and the following segments somewhat wider in the male than the basal segments Protherax about twice as broad as long, sides almost straight, disc transversely sulcate across the middle, very finely and sparsely punctate, the surface finely granulate Soutellum triangular, with surface granulate. Elytra slightly wider at base than prothorax, with a transverse depression behind the base (as is usual in the genus), finely rugose-punctate on a finely granulate surface Underside: first segment of hind tarsi as long as the following segments together.

Longth, 4-5 mm. Nilgiri Hills.

Type in the British Museum.

131. Chalmnosoma cuprea, Jacoby.

Chalanosoma cum ea, Jac, Ann Soc Ent Belg. xlvu, 1903, p 114

Body oblong-ovate, widened and convex behind Colour metallic cupreous; antenuæ fulvous with basal segment metallic blue, elytra with a spot or transverse patch at the base across the convex area, two others placed transversely at the middle and another at the apex, purplish with greenish margins, these spots are equivalent to similarly situated bands in Ch. metallica and Ch. fulvitaisis; legs metallic blue with tibis and tarsi black; scutellum purplish.

Head with vertex extremely fluely and sparsely punctate, surface granulate, frontal tubercles narrowly transverse, clypeus triangular, narrow. Anrennæ scarcely extending to the middle of the elytra, first segment elongate and club-shaped, second

small, third but slightly longer; the following segments are nearly equal. Prothoraa transverse and short, anterior margin straight, sides somewhat rounded; surface rather convex, with a mixture of very minute and coarser punctures, while under a high power the surface, besides bearing these punctures, is finely granulate. Scutellum triangular, with surface granulate Elytra broader at the base than the prothorax, with a depression behind the base, very finely punctate except within the depression, where the punctures are stronger, while besides bearing punctures the surface is extremely finely granulate. Underside first segment of hind tarm rather longer than the following segments together

Length, 5 mm.
NILGIRI HILLS.
Type in the British Museum

132 Chalmnosoma metallicum *, Jacoby.

Chalænosoma metallicum, Iac, Trans. Ent. Soc Lond 1893, p 157

Body rather widehed behind. Colour metallic green; antenne, this and tarsi more or less black, labrum and mandibles black, basal segments of antenne more or less obscure fulvous; elytra with a transverse band across the basal convex area, another at the middle, and a third harrower band near the apex, purplish, these bands are variable, sometimes reduced to spots, the basal purplish band is narrow, not extending to either the suture or the lateral margin, the median band is just behind the post-basal depression, extending to the lateral margin but not to the suture, the preapical band is much abbreviated, extending heither to the suture nor to the lateral margin, scutellum purplish

Head convex, impunctate, frontal tubercles marrowly transverse, bounded by a deep channel behind, clypeus triangular, thickened Antennæ extending to the middle of the elytra, the relative lengths of the segments as stated under the genus Prothorar transverse, about one and a half millimetres broad and one millimetre long, convex sides somewhat rounded, surface scarcely perceptibly punctate. Scutellum triangular Elytra broader at base than prothorax and with a deep depression behind the base, strongly punctate within the depression, the rest of the surface less strongly but closely punctate humerus convex, elytral margins narrowly explanate

Length, 3½–5 mm Nilgiri Hills

Type in the British Museum

^{*} Jacoby wrote the specific name of this, the type-species of the genis, with a neuter termination thus making it agree with the eccond component of the generic name. But in describing the five other species ten years later, he gave the specific names of all of them femant is endings.

Genus CLEONICA, Jacoby

Cleonica. Jac, Notes Leyd Mus 1x, 1987, p 233

GENOTYPE, Cleonica quadriplaquata, Jac (Sumatra)

Body oblong-ovate, eyes comparatively small and entire, mavillary pulpi with penultunate segment thickened. Colour not metallic. Antennæ filiform, with all the segments except the second elongate, somewhat attenuated towards the apex (in the genotype the four apical segments are distinctly thinner). Prothorae short, very transverse, with surface transversely sulcate Elytic in regularly, sometimes obsoletely, punctate, their epipleurs continued to the apices; the humerus is pronounced and continued obliquely behind as a broad ridge. Underside posterior femora inoderately incressate, tibiæ simple, unarmed, first segment of posterior tarsi as long as the two following segments together; claws appendiculate, anterior coxal cavities closed behind

In his generic diagnosis Jacoby erroneously states that the anterior coxal cavities are open. Of the two examples from which his description is taken, one, marked "type," is in the British Museum, and this I have carefully examined, with the result that I am able to correct the error. The coxe themselves are prominent, and this fact obstructs the view of the prosternal process, unless the inject is dissected under water.

Range Assam, Perak, Malay Archipelago.

133 Cleonica nagaja *, sp nov

Body oblong Colour pale brown, pronotum and breast darker brown; fourth to seventh segments of antennæ blackish, the two basal segments partly lighter brown and the four apical pitch-brown; elytia with the margins, suture, a transverse basal, and a similarly transverse postmedim, band, pitch-brown, scutellum generally light brown, in spite of the darker colour of the surrounding parts. In some specimens the dark markings

on the elytra are paler or abeent

Head large, vertex impunctate, mouth-parts exserted, labrum large, carine within the narrow interantennal space well developed. Antenne nearly reaching the apex of the elvtra, first segment the longest and club-shaped, second small and rounded, third almost three times as long as second, and almost equal in length to each of the following segments, the last (eleventh) pointed, the first two segments smooth, shining and hairless, the rest covered with bristly hairs. Prothonax much broader than long, narrower than the base of the elytra, anterior and posterior margins more or less straight, lateral margins oblique, slightly

^{*} From two San-krit words, nava, a mountain, and janan, to be born

explanate; at each of the anterior and posterior angles is a fine seth; surface impunctate, smooth and shining, convex in front, and with a shallow transverse depression in front of the basal margin. Scutellum triangular with apex rounded, surface smooth and impunctate. Elytra parallel-sided with apex broadly rounded, suture prominent, slightly raised; humerus elevated, impunctate, continued slightly obliquely along the side as a broad ridge; lateral margins slightly explanate, the explanate portions being concave; the whole of the surface is confusedly and finely, sometimes obsoletely, punctate; there are a few scattered short hairs along the



Fig 72 — Cleonica nagaja, Maulik

edge of the apex of the elytra Underside smooth, impunctate, sparsely covered with hairs, which are more numerous on the apical portions of the abdominal sternites, epipleura of elytra continued, though narrow, almost to apex, anterior coxal cavities closed behind, posterior femora slightly increasate; tibus cylindrical, not channelled, and unarmed at the apex, first segment of posterior tarsi almost equal in length to the two following segments, claws appendiculate.

Length, 41 mm.

Assam: Patkai Mts (Doherty); Sadiya Hills (Doherty).

Type in the British Museum Described from ten examples.

YOL II.

Genus MESOPA, Jacoby.

Mesopa, Jac, Ann. Soc. Ent Belg xlv11 1903, p. 112

GENOTYPE, Mesopa fulmpes, Jac.

Body elongate, slightly broadened behind. Coloration metallic Head broad; eyes very convex; antennæ almost as long as the body, terminal segments slightly thickened, second segment shorter than third. Prothorax quadrate, without any sulcus, anterior and posterior angles thickened Elytra irregularly and closely punctate, humerus pronounced. Underside prosternum invisible, hidden between the coxæ; anterior coxal cavities closed; legs slender, anterior and posterior tibiæ unarmed, not sulcate,



Fig 73 -Mesopa fulvipes, Jac.

posterior femora strongly incrassate, first segment of posterior tarsi as long as the two following segments together, claws appendiculate.

This genus is allied to Micraphthoma, Jac, and stands to some extent between GALERUCINE and HALTICINE, in that it has the prosternum invisible as in the former, and the femora strongly thickened as in the latter.

Range India.

134 Mesopa fulvipes, Jacobu.

Mesopa fulvipes, Jac, Ann. Soc. Ent. Belg. xlvn, 1903, p. 113

Body above dark cupreous with a greenish tinge; underside black; the four or five basal segments of the antennæ fulvous, the other segments fuscous, legs fulvous, the tarsi slightly fuscous at

the apex; scutellum black

Head broad, closely and rather strongly punctate, minutely granulate, subopaque, with a short but deep longitudinal median foyes above the bases of the antennæ; frontal elevations absent. interantennal short but distinct, eves large. Antennæ nearly as long as the body and stout, first segment rather long and stout, second small, third about equal to fourth, each of the following segments rather thickened, fifth equal to sixth, seventh a little shorter but almost equal to each of the following segments Protherax about as broad as long, sides straight, anterior and posterior lateral angles thickened, each of them possessing a setiferous pore, anterior and posterior margins straight, surface sculpture like that of the head, the sides being more closely punctate than the middle. Scutollum triangular, with surface smooth and impunctate Elyira broader at base than prothorax. rather strongly depressed at the base towards the outer margins: humerus strongly convex, immediately behind the base a large area is convex, the entire surface is very closely and strongly punctate, the punctures being scarcely finer near the apex. Underside convex, sparsely and finely punctate and very sparsely covered with fine hairs, which are more towards the sides; other structures as stated under the genus.

Length, 3 mm; breadth, 1½ mm. NILGIRI HILLS Type in the British Museum.

Genus BIMALA *, gen. nov.

GENOTIFE, Erystus undicus, Jacoby.

Body small, oblong-ovate **Lead* broad, eyes convex and autennæ situated close together, interantennal elevations more or less obsolete, there are two oblique, finely impressed lines proceeding from the upper edge of the eyes and converging towards the central part Antennæ sparsely covered with fine hairs, long compared with the size of the insect; all the segments are not of equal thickness and the first is the longest **Prothorax* broader than long, anterior margin almost straight with angles rounded, posterior margin widely arched with angles obtuse, each of the four angles bearing a fine seta, lateral margins rounded; surface convex and smooth without any impressions. **Scutellum* small and triangular **Elytra* slightly broader at base than prothorax,

^{*} Sanskrit, "without blemish"

somewhat narrowed towards the apex, surface smooth, finely and confusedly punctate *Underside* the parts are as stated in the description of the genotype

I have proposed a new genus for this insect because it differs from the genus Enystus in shape and in having the clytral

punctuation confused

Range India

135 Bimala indica, Jacoby

En ustus undicus, Inc., Ann Soc Ent Belg vl, 1896, p 265

Body narrowly orate Colour of the head and its appendages, the six or seven basal segments of the antennæ, the pronotum and legs, light brown, the four apical segments of the antennæ, elytra, scutellim, metasternum and abdominal sternites, pitch-black

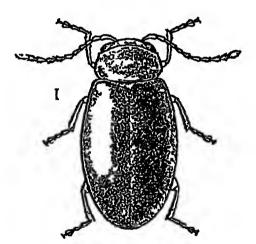


Fig 74 -Bimala indica, Jac

Head almost as broad as long, impunctate; eyes convex, frontal elevations and carina entirely obsolete, clypeus narrowly insect. Antennæ rather robust, reaching to the middle of the elytra, sparsely covered with fine liairs, first segment longest and clubshaped, second much shoter than first but slightly longer than third fourth a little longer than third; from the fifth to the last the segments become more elongate, slightly thicker and almost equal, the last segment is pointed. Protherax broader than long, basal margin widely include and slightly shorter than front margin, sides uniformly curved from the posterior to the anterior angles, which are not prominent, surface smooth and impunctate, uniformly convex from side to side Scatellum small, triangular, smooth Eliptia slightly broader at base than prothorax, gradually narrowed behind; extremely minutely and confusedly punctate,

with the interstices very finely granulate when seen under a high power, epipleura broad at base, slightly narrowing towards the apex *Underside* smooth, impunctate anterior coval cavities closed behind, first abdominal segment double the length of the second, posterior temora strongly incrassate, posterior tibute with a minute spine at the base

Length, 2½ mm

BOMBAY Belgaum (Andrewes Coll.)

Tupe and three more examples in the British Museum

Genus MICRAPHTHONA, Jacoby.

Micraphthona, Jac, Mem Soc Ent Belg vn, 1900, p 125

GENOTYPE, Micraphthona urgrita, Jac.

Body oblong Head broad, punctate. Antenna slender, about as long as the body, with the basal segments as thick as the apical segments; second segment short, third twice as long, the following segments somewhat more elongate Prothorax broader than long, as broad at its base as in front, the four lateral angles not produced, the surface without any sulcus, confusedly and closely punctate Elytra broader at base than prothorax, confusedly and closely punctate, their epipleura narrow at about the middle but distinct. Underside posterior femora moderately robust, tibia not spleate, all aimed with a small spine at the apex, but this is seen with difficulty; first segment of posterior taiss as long as the following segments together, claws appendiculate, prosterium very narrow, rather indistinct, anterior coxal cavities closed behind

The small species for which this genus has been elected resembles Luperomorphu in its general aspect, but differs in the relative lengths of the second and third segments of the antennæ and in having the antenni coxal cavities closed behind, the elytial epipleura are narrow posterior to the middle, and the antenni coxa are closely approximated, so that the presternum is extremely marrow, the posterior temora are, however, strongly enough incrassate to justify the placing of the genus in the Halffolia.

Range Assam

136 Micraphthona nigrita, Jacoby

Muraphthona mgrita, Jac, Mem Soc Ent Belg vn, 1900, p 126.

Body black, legs fulvous, the three basal segments of the autenme fulvous, apical half of the posterior temora piceous

Head obsoletely punctate, frontal elevations indistinct, clypeus distinctly raised between the antennæ The structure and relative lengths of the segments of the antennæ are as stated under the genus Prothorax broader than long, sides nearly straight, angles

not produced, basal margin slightly sinuate in front of the scutelium, surface closely and rather strongly punctate, the punctures shallow. Scutelium insignificant, triangular, with the surface rough. Elytra a little broader at base than prothorax, slightly widened behind, the shoulders somewhat prominent,

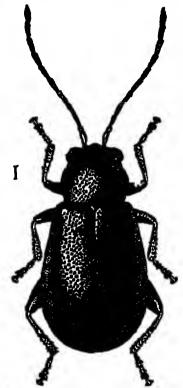


Fig 75 -Micraphthona marita, Jac

surface closely punctate and more strongly so than the pronotum. Underside abdominal sterrites shallowly punctate.

Length, 2½ mm
Assam Khasi Hills
Type in the British Museum

Genus EUDOLIA, Jacoby

Eudolia, Jac, Ann Mus. Civ. Genova, xxii, 1885, p 69

GENOTYPE, Eudolia sumati ana, Jac (Sumatra).

Body ohlong. Head exserted, clypeus strongly elevated; eyes convex, entire; third segment of the maxillary palpi widened, fourth short, conical. Antennæ gradually dilated, slightly complessed first segment slender and elongate, second and third

segments very short, equal in length in the genotype but not in the Indian species; in the males of some species the fifth and sixth segments are much thicker than the others, and are followed by two very short segments. Prothorax almost quadrate, broadened in front, deeply constricted near the base. Scutellum elongate, triangular. Elytra much broader than the prothorax, semi-punctate-striate, humerus prominent, strongly convex towards the base. Underside: posterior femora moderately incrassate; tibise not sulcate and without any spine at the apex; first segment of posterior tarsias long as the three following together; prosternum very narrow; anterior coxal cavities closed behind; claws appendiculate.

Range. Sumatra, Borneo, Malay Peninsula, Burma, Assam, Himalayas.

No key of the three Indian species of this genus is given, for leasons stated below, under Eudolia ratula (p. 201).

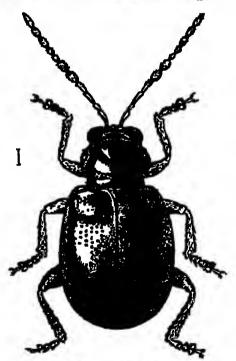


Fig. 76 - Eudolia himalayenne, Maulik

137. Eudolia himalayensıs, sp. nov.

Head, pronotum and scutellum dark chestnut-brown to black; legs and the four basal segments of the antennæ yellow-brown; the other segments of the antennæ piceous; elvtra greenish-blue or violet; underside (and sometimes the posterior legs) dark tch-brown.

Head with vertex impunctate, separated from the rest of the surface by a transverse impressed line, interantennal space with two ridges, which broaden towards the apex and inclose a deeply impressed line Antenna extending to the middle of the body. first segment elongate and club-shaped, second small, third about twice as long as second and somewhat longer than fourth in the male the fifth and sixth are greatly dilated, seventh and eighth small and equal, ninth longer, tenth and eleventh equal. Prothorax somewhat broader than long or almost quadrate, broadest in front and much narrowed behind at the constriction, a shallow transverse depression in which there are a tew deep punctures, the rest of the surface is impunctate, anterior and posterior angles each bearing a fine seta Scutellum elongate, triangular, surface impunctate Elytra much broader at base than prothorax, surface closely punctute, the punctures forming irregular and closely-placed strim, which may be about sixteen or seventeen in number, including the short scutellar ion; the punctures are feeble and sparse on the convex basal and on the apical parts. Underside -mooth, impunctate, and very sparsely covered with fine silvery hans

Length, 4-43 mm

UNITED PROVINCES Kumaon, Almora, vi 1917 (H G. Champion) Sikkim Rungbong Valley, Gopaldhara (H Stevens) this example has greenish-blue elytra and black pronotum

Type in the British Museum Described from five examples

138. Eudoha nila *, sp nov.

Upper side blue, sometimes tinged with violet, in the male the two basal, in the female the six basal, segments of the antenna nie brownish-yellow, legs brownish-yellow; underside black,

abdominal sternites sometimes edged with brown

Head with vertex impunctate, the transverse impression separating the vertex from the rest of the surface, and the interantennal ridges inclosing a longitudinal impression as in E himalayensis. Antennæ extending to about the middle of the elytra, first segment elongate, second small, third about twice as long as second and slightly longer than, or about equal to, the fourth, the fifth and sixth in the male not so thickened as in E himalayensis, but thicker than the basal segments, the two following shorter and small, much, tenth and eleventh almost equal, the latter pointed, in the female the apical segments from the fifth onwards are not thickened as in the male Prothorax somewhat broader than long or almost quadrate, broadest in front, the setiferous pores at each of the four corners more prominent than in E himalayensis, surface convex, more sloping on each side

^{*} Sauskrit, 'blue"

towards the base; in front of the basal line is a transverse depression, often interrupted in the middle and containing a few rather large punctures. Scatellium smooth, impunctate. Elytical elongate, parallel-sided, bloadly rounded at apex; surface punctate, the punctures being arranged in closely-placed longitudinal rows, but the arrangement is not sufficiently regular for the rowsto be definitely counted; on the convex basal and the apical particle punctures are feeble and spaise, while they are strong and closely placed in the middle. Underside smooth, impunctate, sparsely covered with fine white hairs

Length, 41-5 mm

BURMA Ruby Mines (Doherty) Assam Patkai Mts (Doherty); Manipui (Doherty)

Type in the British Museum Described from five examples

139 Eudolia ratula *, sp nov

Head, prothorax, and basal segments of antennæ red-brown; apical segments of antennæ piceous, front and middle legs lighter brown, hind legs often very dark brown, but they may be as light as the other legs, underside black. The basal segments of the antennæ, the prothorax, and the legs may vary from quite a light to a deeper brown. The colour of the elytra is never a pure blue and varies to a shade which has a large admixture of violet.

In all essential teatures this species resembles the preceding two. The basal segments of the antennæ present a certain amount of variation in their relative lengths, especially the second, third and fourth, the second is sometimes quite small as compared with the third and sometimes not so, in the latter case the third is shorter than usual; similarly, the third may be either distinctly longer than, or almost equal to, the fourth, the fifth and sixth are considerably swellen in some cases, in others (males) they are less swellen, but still distinctly more dilated than the preceding segments. The variation in colour is described above

Length, 3-11 mm

BURMA Ruby Mines (Doherty) Momenk (Doherty) Assim Patkar Mtx (Doherty), Sadiva (Doherty)

Type in the British Museum Described from six examples. This very variable insect may prove to be a form of the preceding species and, further, all the species of Eudoha from our regions may be really one. They all or any an anomaton proven

preceding species and, further, all the species of Endoha from our regions may be really one. They all occur in mountainous parts, in the Himalayas or their eastern extensions. I also believe that the males (taken by themselves, leaving the females out of account) will show a dimorphism in the structure of the antennæ. But the material before me is insufficient to establish these points

^{*} From a Sauskrit root meaning "like"

Genus CHÆTOCNEMA, Stephens,

Chæiocnema, Steph, III Brit iv, Ent 1831, p 325, Chapuis, Gen Col xi, 1875, p 49, kowler, Col Brit Is iv, 1890, p 385

Udon pes, Motsch, Bull Soc Nat Mosc xviii, 1845, pait 1, no 1, p 107.

Ydorpes, Motsch, op cit, addendum at end of volume

Hydropus, Gemminger & Harold, Cat Col xii, 1876, p 3519.

Tlanoma, Motsch, Bull Soc Nat Mosc xviii, 1845, part 1, no 1, p 108

Plectroscelis, Redtenb, Fauna Austriaca, 1st ed, 1849, p 539, 2nd ed, 1858, p 946, Chapuis, Gen Col xi, 1875, p 48, Fowler, Col Brit Is iv, 1890, p 385

GENOTIPE Altica hortensis, Geoffroy, in Foureroy, Ent Paris, 1785, p 98 = Galerica aridella, Paykull, Fann Suec 11, 1799, p. 111

Sometimes Tlanoma, Motsch, is regarded as a subgenus of Chatocnema, the type of Tlanoma was fixed by Motschulsky as Haltua dentipes, Koch, Ent Heit ii, 1803, p 38 = Chrysomela concinna, Marsham, Ent Brit i, 1802, p 196. In proposing the genus Chatocnema Stephens cites andella as the first species, and this has been tacitly adopted as the type, although, is far as I am able to find out, it has not before been definitely fixed and published.

Small oval beetles, narrowed in front and behind, those from within our limits varying in size from one and a half to about three millimetres Colour dark, often green with bronzy reflections, almost always the basal five or six segments of the autennes, the front and middle legs and the posterior tibize and tarsi, are Head generally broad without any frontal elevations; in one or two cases the interantennal space is very slightly and broadly raised, very often there is in the interocular space just above the roots of the antennæ a transverse impression, which is joined on each side by an impressed oblique line; this latter usually touches the upper edge of the eye at a taugent, in some cases a deep and more or less broad pit adjoins the inner margin of the eye, the whole surface may be punctate or impunctate or finely granulose, sometimes there are punctures on a granulose surface, interantennal space not very narrow; labrum often large, covering the mandibles Antennæ never as long as the body, at least in those species from our regions, their length values from reaching as far as the humerus to attaining the middle of the elytia, basal segment always thick and club-shaped, second as thick as, but always shorter than, first and always thicker than third, third to sixth segments generally of more slender build, their relative lengths varying to a certain extent; seventh to eleventh often somewhat stouter; the antennæ are generally very sparsely scattered over with fine hairs Eyes generally strongly convex and more or less widely separated Prothorax always broader than long, front margin more or less nearly straight, basal margin sometimes slightly produced into a lobe in the middle, lateral margins generally somewhat rounded, in some cases straight, each of the anterior and posterior ingles bearing a fine seta arising from a

pore with a distinct base, anterior angles often thickened and obliquely truncate, posterior angles generally rounded; surface convex, considerably sloping down at the sides, always punctate; the punctures may be coarse or fine, closely placed or sparsely distributed, and besides this the surface may be finely granulose or smooth; in some species there is an impressed punctate line along the basal margin. Soutellum small, triangular, with apex broadly rounded, surface either finely granulose or without the granulation. Elytra generally almost of the same width at the base as the prothorax, but sometimes slightly wider, always punctate-striate, each elytron having usually eleven rows including the short scutellar row and the extreme marginal row; in some cases the punctures are crowded and less regular in the area round the scutellum, and on the disc the rows may not be quite straight: in some species all the interstices are distinctly costate, in others some of them tend to be costate on the lateral and apical parts of the elytron; in several species the interstices are very finely punctate, in others, again, the interstices are very close together and narrower than the seriate punctures themselves; the type of the genus has this kind of arrangement of the rows. generally punctate and bearing fine hairs; epipleura of the elytra generally broader at the base, considerably narrowing towards the apex and often punctate, prosternum moderately broad and punctate; anterior coxal cavities closed behind, posterior femora considerably thickened; tibiæ and tarsi generally slender.

The important distinguishing character of the genus is that each of the middle and hind tibis possesses a long excavation of the outer edge (figs. 77-80) extending from its apex to a certain distance up the tibis, this emargination is fringed with bristly hairs, some of which, particularly those at the apices of the emargination, are developed into spines. The first segment of the tarsi is long, the third bilobed, and the claw segment projects to a certain extent beyond the bilobed segment; the claws themselves

are separated and generally appendiculate.

Chatocnema is a natural genus with a characteristic build of the body which, once recognised, cannot be mistaken.

Range. World-wide

Key to the Species

1 Interstices between the longitudinal rows of punctures on the elytra very narrow, the rows being close to each other and the punctures themselves being larger, and sometimes more or less confused on the disc

Interstices broad and strim regular.

2 Punctuation more or less confused and strim somewhat irregular on the middle of the disc

4

[p 205 Ch puscensus, sp. n,

Strie legula, though very close to each other, punctuation not confused on the middle of the disc 8 [p 206. 3 Length 3 mm.; form much broader and Jac, larger, punctures stronger Ch birmanica, p 207 Length always less than 3 mm (usually about 2 mm), punctures less strong Ch. concinnipennis, Baly, 4 Along the basal margin of the pionotum is an impressed line containing a regular transverse row of punctures No impressed punctate line is present 5 Interstaces between the rows of punctures on the elytra densely punctate and To 208 transversely wrinkled, surface round Ch nagpurensis, Buyiv, the scutellum gently convex Interstices not densely punctate and not tiansversely wrinkled, surface found 6 the scutellum not gently convex 6 Larger insects (31 mm long), colour greenish - black, sides of pionotum almost impunctate, elytial interstices finely punctate Ch duvimer, Jac, p. 208 Insect smaller (2 mm long), colour purer black, pronotum finely and uniformly punctate, elytral interstices hardly Ch basulis, Baly, p 209 punctata 7 All the intenstices between the lows of punctures on the elytia distinctly costate 12. All the interstices not distinctly tostate 8 Head impunctate, costa on elytra more pronounced behind the middle, colour 9 uniformly dark piceous [p 210 10 No such combination of characters Ch subcostata, Jac, 9 Clypeus deeply punctate Ch. montivaga, Clypeus not punctate p 211 10 Pronotum very closely punctate, a somewhat large triangular area of the elytia round the scutelium confusedly punctate, on the disc a few of the rows nearer the suture are not perfectly Ch hareta, sp n, p 211 -traight Pronotum less closely punctate, in the scutellar low on the elitra the punctuation may be miegular, but there is no triangular area with confused punctuation, all the lows are periectly 11 straight 11 Larger and broader insects (22 mini long), pronotal punctures almost as large as, p 212 or very slightly smaller than, elytral Ch bretinghami, Baly, punctui es Smaller and narrower insects (about 2 mm long), pronotal punctures distinctly (h singala, sp n, p 212 times than eletral punctures

12	Interstices between the rows of punctures on the elytra distinctly but finely	•
	punctate	13
	Interstices not distinctly punctate	16
13	Surface of he id granulate, pronotini very closely punctate, with the interstices	
	finely granulate .	14
	Surface of head not granulate, pronotum	
	more sparsely punctate, with interstices	
	not granulate	Ch steete en u m 919
7.4		Ch sticta, sp 11, p 218.
14	Pronotum more unirowed in front, punc-	
	tures very close, meet small (17 mm	
	long)	Ch minuta, Jac, p 214
	ronotum broader, not so narrowed in	
	front, punctures not so close, insect	
	always more than 17 mm long	15
15	Pronotal punctures, at least those towards	[p 215
	the base of the disc, somewhat elongate	Ch longipunctata, sp n,
	Pronotal punctures round and bold	Ch lanka, sp n, p 216
18		(the seconds Balm = 010
10	Colour greenish with a slight brouzy tinge	Ch cognata, Baly, p 216
	Colour deep bronze or seneous, with little	
	definitely greenish tint	17
17	Interstices between the rows of punctures	
	on the elytia, particularly those near	
	the scutellar row, wrinkled and slightly	
	depressed behind the scutellum, all	[p 217.
	the femora dank	Ch alticola, sp n,
	Interstices smooth and flat, not slightly	an arready op 11,
'	depressed behind the scutellum	Ch helle Too m 919
	gobiosed sening one senietiam	Ch bells, Jac, p 218

franslations of Motschulsky's descriptions of three of his species, nigrica, puncticollis and gracilis (which were placed by him in Tlanoma, Motsch.), are given on pp 219-20, but no attempt has been made to incorporate them in the above key.

140 Chætocnema pusaensis, sp nov.

Body ovate, narrowed belind but not so much in front. Colour greenish-æneous; tibiæ, tarsi and the basil four or five segments of the antennæ, brownish; the front and intermediate femora and

the test of the antennal segments precous or fuscous

Head broad, with the vertex closely punctate on a finely granulate surface, interocular space just above the antennæ with a deeply-impressed transverse line meeting two oblique lines almost touching the eyes at the vertex, eyes convex, clypeus more coarsely punctate. Antennæ extending almost to the middle of the elytra, first segment long and club-shaped, second shorter, third to sixth almost equal, the rest somewhat thickened. Prothoraa broader than long, sides gently rounded, slightly margined, surface convex, uniformly covered with fine punctures which are more or less of the same size. Scatellam triangular, small, broader than long, impunctate. Elytra hardly broader at base than prothorax, narrowed behind, punctate-striate, the strip being more

regular on the lateral and apical parts than on the middle of the disc and particularly that part round the scutellum; owing to this comparative irregularity of the rows on the disc it is sometimes to be observed that the punctures are arranged in double rows.

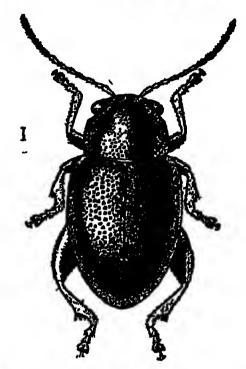


Fig 77 - Chatocnema pusasnes, Maulik

Underside punctate, very sparsely covered with silvery hairs; structure of the parts as stated under the genus.

Length, 21 mm.

BIHAR. Puss, 6. vii. 1920, boung in stem of Pancium miliacoum, L. (common rullet), 31 examples (Puss Coll.). Madras: Vizagapatam District, Chipurupalle, 2 specimens (R. S. Patuck. British Museum).

Type in the British Museum.

141. Chatomema hirmanica, Jacoby.

Chatomema birmanica, Jac., Ann. Mus Civ Ganova, xxxii, 1892, p. 989.

Colour obscure cupred-seneous; the three basal segments of the antennae and the table more or less brownish; anterior femora slightly, posterior more darkly, seneous, tables and tersi in some parts stained with schools.

Head broader than long, closely, strongly and rugosely punctate, the interstices minutely granulate and only just separating the punctures, lower portion of face clothed with white pubescence; eyes very widely separated. Antenue extending to about the middle of the elytra, third segment very slightly shorter than the fourth and a little longer than the thickened second segment, the five apical segments somewhat thickened Prothorax convex. broader than long, sides nearly straight, anterior angles very slightly oblique, surface strongly and closely punctate, the interstices, more especially at the sides, slightly reticulate. Soutellum small, triangular, broader than long, impunctate. Elytra not wider at base than prothorax, but gradually widened towards the middle and there narrowing to the apex; strongly punctate, the punctures arranged in closely-placed rows, the interstices scarcely wider than the punctures; the rows are not everywhere quite regular, and the interstices at the sides form two slightly-raised longitudinal costs on each elytron. Underside presternum and breast strongly punctate

Length, 3 mm.

BURMA. Rangoon, x11. 1888 (Fea).

Type in the Genoa Museum One example, also marked "type" and with Fea's label, in the British Museum (Jacoby Coll).

142. Chatocnema concunipennis, Baly.

Chatocnema concumupantis, Baly, Trans Ent Soc Lond 1877, p 170

Body evate Colour shuing brassy-greenish or bluish, antennæ and legs obscure tawny-reddish, posterior femora sometimes

darker or pitchy; labrum shining black.

Head with vertex and front finely granulose, punctate, clypeus rugose-punctate, clothed with whitish hairs, labium bload Antenna scarcely more than half the length of the body, third to fifth segments slender, almost equal, the rest of the segments somewhat thickened Prothorux about twice as broad as long. sides straight but oblique, rounded and converging in front, anterior angles thickened, surface convex, subcylindrical in front, and closely covered with deep and strong punctures Scutellum broader than long, triangular with apex rounded, impunctate. Elytra broadly ovate, somewhat narrowed towards the apex, humeral callus thickened, surface closely covered with longitudinal rows of punctures, the latter having a greater diameter than the width of the intervals, which are subcostate along the lateral margin and on the apical portion. In the closeness of the longitudinal strim this species iesembles Ch. birmanica, Jac., which is a much broader and larger species Underside punctate; elytral epipleura with rows of punctures; other parts as described under the genus.

Length, a little more than 2 mm

INDIA (type-locality, Beeingham) BENGAL. Sundarbans (F. W. C. Champson), Calcutta, museum tank, 14. vin 1906 (Indian Museum) BIHAR. Pusa, Harpur, boring stems of seedhug paddy, 12 v. 1919 (Pusa Coll) SIKKIM Mungphu (Atkenson) Assam Sylhet (British Museum) South India Nilgiri Hills (H. L. Andrewes) CEYLON Hambantota, 25 x1 1907 (T B Fletcher), Tandalle, 30 x1 1907 (T. B Fletcher)

Type in the British Museum

143 Chætocnema nagpurensis, Dunvier

Chatocnema nagpurensis, Duviv, Ann Soc Ent Belg. xxxvi, 1892, p 422

Subovate, moderately convex Black, with head, prothorax and elvtra bronze, antennæ and legs light brown, posterior femora bronzy-black, anterior and intermediate femola marked with

pitchy-black

Head finely rugulose and finely punctate, without irontal carina, with a small depression between the eyes, and the front large and declivous. Prothorax about one and a half times broader than long, transversely convex, with the anterior lateral angles placed ın a lower plane, sides almost straight, surface rugulose, somewhat closely, very finely and uniformly punctate, along the basal margin is an uninterrupted series of strong and deep punctures. Elytra somewhat broader at base than prothorax, with the humerus moderately prominent, strongly punctate-striate, the interstices subconvex, densely punctate and transversely wrinkled, the area surrounding the scutellum very gently convex.

Length, 2 mm.

BIHAR Barwa [Baiway] (Père Cardon).

The location of the type is unknown to me, I have heard from Mons Severin that it is not in the Brussels Museum. The species was described from one example. The above description is a translation from the original French

144. Chatocnema duvivieri, Jacoby

Chalocnema dunwers, Jac, Ann Mus. Civ Genova, xxxii, 1892,

Colour greenish-black; the five basal segments of the ancenna brown, the rest of the antennal segments black; the four anterior femora stained with pitchy colour, posterior femora greenish-black,

remaining parts of legs brown

Head broad and robust, finely and sparingly punctate, eyes distant, frontal tubercles entirely absent, clypeus broad, deflexed, labrum and lower portion of the face very short, abruptly truncate, furnished with some single whitish hairs Antennæ extending to half the length of the clytra, third and fourth segments equal, scarcely longer than second but much thinner, terminal segments

slightly thickened Protherar twice as broad as long, sides but slightly rounded, anterior angles oblique, base with a very nairow maigin, accompanied by an entire transverse impressed line, surface closely and finely punctate, the sides rather more finely punctate, almost impunctate near the lateral margin Scutellum broader than long Elytra broad, moderately convex, strongly punctate-striate, the interstices very minutely punctate, those at the sides of the elytra convex

Length, 3\frac{1}{6} mm
Tenasserim. Thagata
Type in the Genoa Museum
I have not seen this species

Described from a single specimen.

145. Chætocnema basalıs, Baly

Chætocnema basalis, Baly, Trans Ent. Soc Lond 1877, p 310 Chætocnema par vula, Baly, l c Chætocnema geniculata, Jac, Ann Soc Ent. Belg xl, 1896, p 270.

Ovate Black, shining, underside piceous, posterior femora black except at the apex, tibiæ and tarsi brownish-piceous; the four basal segments of the antennæ brown, the rest pitchy-black.



Fig 78 - Chalocnema basalis, Baly

Head with vertex and front impunctate, very finely granulose; front impressed on either side above the eye with a short longitudinal furiow, which runs downwards into the oblique impression separating the interocular space from the front, immediately exterior to this furrow on either side is a single round fovea; interantennal carina narrowly oblong, its lower apex acuminate

Antennæ slender, more than half the length of the body, from the third onwards the segments are nearly equal, the apical segments may be very slightly thickened Prothorax much broader than long, sides converging and rounded from base to front, anterior angles thickened, surface convex, shining, impressed, but not deeply or very closely, with punctures, some of which appear to be obloug and all of which are smaller than the elytral punctures, posterior border distinctly margined and impressed with a single row of deeper punctures. Scutellum small, triangular, with apex broadly rounded, impunctate broader than prothorax at base, attenuated towards the apex. convex, regularly punctate-structe, each elytron having eleven rows, including a scutellar and a marginal row; interstices flat, but the auterior portion of the outermost interstices is somewhat thickened Underside elytral epipleura with a maiginal longitudinal row of punctures.

Length, 11-2 mm

INDIA (type-locality of basales). Chylon (type-locality of par-

vula). BURMA (type-locality of geniculata)

BOWBAY Khandesh (T. R Bell), Belgaum (Jacoby Coll.)
NILGIRI HILLS (H. L. Andrewss) BURMA: Tharrawaddy (Andrewss
Coll). Tenasserim Tavoy (Doherty) Assam (Doherty)

I have compared very carefully the three types alluded to above, which are all in the British Museum, but L.can find no essential difference to separate them The species has a wide distribution in India, Burma, and Ceylon.

146 Chætocnema subcostata, Jacoby

Chatocnema subcostata, Jac, Ann Mus Civ Genova, xxvii, 1889, p 203

Body robust. Colour piceous or nearly black, antennæ pale yellow, the terminal segments stained with fuscous, legs dark

brown, the anterior ones paler, labrum brown

Head impunctate, vertex convex, inner margins of eyes bearing some deep punctures, frontal tubercles and carina absent, interocular space with a distinct transverse impression; clypeus broad, deeply punctate at each side, its auterior margin straight. Antennæ two-thirds the length of the body; basal segment very long, third segment one-half longer than second and equal to the following segments. Prothorax more than twice as broad as long, sides perfectly straight, anterior angles oblique and thickened, surface minutely granulate, closely and finely punctate. Scutellum much broader than long. Elytra deeply and regularly punctate-strate, the interstices longitudinally costate, especially behind the middle, and impunctate.

Length, 33 mm.

BURMA Temzo (Fea).

Type in the Genoa Museum. I have not seen the type of

this species.

147 Chatocnema montivaga, sp. nov.

Body ovate, broadest at the base of the elytra, then gradually narrowed behind Colour pitch-brown to black, the six basal segments of the antennæ, the front and middle legs, the posterior tibiæ and tarsi, brown, these parts being much lighter in the

lighter specimens .

Head with vertex impunctate, surface granulate, interantennal, carina somewhat raised longitudinally, its upper end terminated by an angled impression, on each side of which is a deeply-impressed oblique line meeting tangentially the top of the eye, at one point on this line is a deep pit situated on the inner side of the eye, clypeus impunctate Antennæ moderately stout, extending a little distance beyond the humerus; first segment long and club-shaped, small, third somewhat longer than fourth, the rest more or less nearly equal. Prothorax broader than long, sides more or less straight, anterior lateral angles thickened and truncate, basal margin slightly produced into a broad lobe in the middle; surface convex, very finely granulate and uniformly but not very closely punctate Scutellum broader than long with apex widely rounded, impunctate, extremely finely granulate, the gianulation only visible under a high power Elytra hardly broader at base than prothorax, each elytion with eleven regular rows of punctures, including a short scutellar and an extreme marginal row., witerstices costate and very finely punctate, this fine punctuation visible under a high power Underside very sparsely covered with fine silvery hairs

Length, 3 mm

Assam Patkai Mts., 2 examples (Doherty). Tenassdrim Mergui, 1 example (Doherty) Malay Peninsula mountains of Perak, 1 example (Doherty)

Type in the British Museum Described from four examples

148 Chætocnema harita *, sp. nov.

Body ovate, pointed behind Colour bronzy-green, the bronze or the green predominating in different cases; the six basal segments of the antennæ, front and iniddle legs, posterior tibiæ and tarsi, brown, the rest of the antennal segments piceous

Head closely punctate, interocular space just above the antennæ with a short and transversely impressed line, rest of surface closely punctate but without any elevations. Antennæ extending to a certain distance beyond the humerus, first segment long, clubshaped, second smaller, third to sixth slender, third and fourth equal, fifth and sixth equal, the rest somewhat thickened Prothorax broader than long, sides almost straight or very gently rounded, anterior angles thickened, surface convex closely covered with coarse punctures. Scutellum small, triangular,

^{*} Sanskrit for a shade of green

impunctate Elytra somewhat broader at base than prothorax, regularly punctate-striate. but the series nearer the suture are not perfectly straight, interstices costate, each elytron has ten distinct rows of punctures, including an extreme marginal row, round the scutellum a triangular area is confusedly punctate, the elytral punctures are deep and large Underside very sparsely covered with fine hairs

Length, 21 mm

MADRAS Vizagapatam District, Chipurupalle (R. S. Patuck)
Type in the British Museum Described from two examples

149. Chatocnema bretinghami, Baly.

Chatocnema bretinghami, Baly, Trans Ent Soc Lond 1877, p 170

Body ovate, narrowed behind Colour bright coppery- or brassygreen; legs, except the posterior femora, yellow-brown, the six basal segments of the antennæ yellow-brown; the rest of these

organs dilute piceous

Head with vertex more or less convex, strongly punctate Antennæ slender, half the length of the body, third to sixth segments more slender than the others and more or less nearly equal, the rest of the segments somewhat thickened Prothorax about twice as broad at the base as long, sides rounded, converging from base to front, posterior lateral corners nearly right angles, anterior angles thickened; surface convex, subcylindrical in front, strongly and closely punctate, the punctures being more distant in the middle Scatellum broader than long, half-Elytra ovate, attenuated towards the apex, strongly and deeply punctate-striate, each elytron having eleven longitudinal rows, including a short scutellar and an extreme marginal row, along the scutellar row there are a few additional punctures, interstices costate, more strongly so at the apex and the sides, the surface of the raised interstices is very finely reticulate, as can be seen under a high power Underside punctate

Length, 21 mm
INDIA (Bretingham) BIHAR Pusa, on grass, 24 1. 1906
(R P V.).

Type in the British Museum.

150. Chætocnema singala*, sp nov.

Ovate Colour greenish with a slight bronzy tinge, the six basal segments of the antennæ, tibiæ and tarsi, brown, the rest of the antennal segments and the femora piceous, the posterior femora mere strongly so

Head coarsely and closely punctate, without any elevations at all; the transverse impressed line, just above the roots of the

^{*} Sanskrit, "Ceylon"

antennæ, and the oblique lines are present but not very prominent. Antennæ short, hardly extending to the base of the pronotum; first and second segments as usual in the genus, third to sixth more slender, equal except that the fifth is slightly longer, the rest somewhat thicker and equal *Prothorax* broader than long, sides almost straight or gently rounded; surface convex, closely punctate, the punctures somewhat smaller than those of the elytra. *Scutellum* broader than long, triangular with apex broadly rounded; under a high power the surface is seen to be finely reticulate. *Elytra* hardly broader at base than prothorax, regularly punctate-strate the interstices raised, this being more pronounced at the apex and sides; seen under a high power the interstices are reticulate, on each elytron there are eleven rows, including a short scutellar and an extreme marginal row.

Length, 2 mm.

CEYLON: Colombo, v. (H. P. Green).

Type in the British Museum. Described from one example.

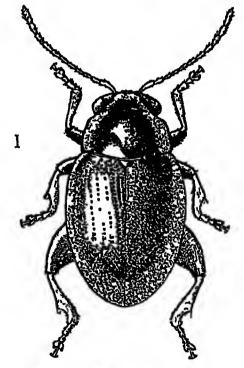


Fig 79 -Chatocnema sticta, Vauus.

151. Chætocnema strcta, sp nov

Form ovate Colour blackish with a bronzy tinge, the five or six basal segments of the antennæ, the front and middle legs, and the posterior tibes and tarsi, brown, the rest of the antennal

segments are sometimes pitchy, and the brown parts are some-

times of a deeper shade

Head with vertex finely and sparsely punctate, the transverse and oblique channels in the interocular space are deep, and sometimes deeply excavated near the inner edge of each eye, the excavation containing punctures, owing to the depth of the channels, which extend to the interantennal space, part of the latter appears to be longitudinally raised. Antennæ extending to a certain distance beyond the humeins, first and second segments as usual in the genus, third to sixth more slender and more or less nearly equal, the second about count in length to the third, though thicker, the rest of the segments very slightly thicker and equal Prothorar broader than long, sides gently rounded, anterior lateral angles somewhat thickened, surface convex, more or less sparsely and finely punctate, the punctures being finer than those of the elvira, the interstices not granulate Scutellum broader than long, triangular with the apex broadly rounded and the surface impunciate Elytia very slightly broader at base than prothorax, regularly punctate-striate, interstices flat, some of them having a tendency to become costate towards the aper, and very finely and sparsely punctate Underside very sparsely covered with fine hairs

Length, 21-3 mm

UNITED PROVINCES Kumaon, Rankhet, 13 examples (H G Champson) Tenasseria Tavov, 5 examples (Doherty)

Type in the British Museum

While describing this species I had before me all the examples from the two localities stated above, and the following slight variations were observed. The specimens from Kumaon generally have the pronotal punctures more marked than those of the examples from Tenasserim, the difference is so great that the idea of two species being present among this lot of specimens would have been justified, did not one example from Kumaon show pronotal punctuation similar to that of the specimens from Tenasserim. Among all the examples there is a certain amount of variation in the coloration of the blown parts, in some they are more blown than pitchy, and the latter colour may be of a deeper or of a more or less dilute shade

152 Chætocnema minuta, Jacoby

Chatocnema minuta, Jac, Ann Soc Ent Belg xl, 1896, p 271

Body ovate, narrowed in front and behind Colour obscure eneous, anterior legs and posterior tibie more or less yellowish, the five or six basal segments of the antenne tawny, the rest brownish-black.

Head minutely granulose, with a few very fine punctures between the eyes frontal elevations absent Autennæ extending a little distance beyong the pronotum, third to sixth segments

slender and almost equal, seventh to eleventh thuckened to form Prothorax scarcely twice as broad as long, sides nearly straight, gradually narrowed in front, anterior angles scarcely oblique, the usual seta placed much below the angles; surface minutely and closely punctate, interstices finely granulate Scutellum broader than long, granulate Elytra moderately strongly punctate-structe, each elytron having eleven lows, including a scutellar and an extreme marginal row, the punctures very closely placed in the strie, the short sutural row as regular as the others, interstices extremely minutely punctate, this being only visible under a strong lens, the interstices at the sides elytial epipleura impunctate; slightly costate Underside posterior tibiæ strongly emarginate beyond the middle, with a long spine, first segment of the hind tarsi as long as the following segments together

Length, 13 mm

BOMBAY Belgaum (Andrewes Coll.)

Type in the British Museum. Some of the specimens are labelled "Ch minuta" and some "Ch indica Weise," but the latter labels are not in Weise's handwriting and all the examples appear to have been determined by Jacoby. I am unable to trace any published species called Ch indica, Weise, and it seems to be merely a manuscript name

153 Chætocnema longipunctata, sp nov.

Body ovate Colour black; antennæ, tibiæ and tarsi brown; the five or six apical segments of the antennæ and the femora

piceous, the hind femoia being of a deeper shade

Head impunctate, but the whole surface is finely granulate, the oblique channels on the inner side of the eyes very deep and broad, continued to the interautennal space, the short transverse turrow just above the roots of the antennæ equally deep and terminated on each side by the oblique channels Antennæ extending to a certain distance beyond the humerus, first two segments as stated under the genus, third to sixth more slender, more or less nearly equal, the rest somewhat thickened. Prothorax broader than long, sides almost straight surface convex, very finely granulose, and covered with fine punctures, which are more or less elongate, particularly those near the base Scutellum broad, with the apex broadly rounded, surface very finely granulose hardly broader at base than prothorax, regularly punetate-structe, the punctures being much larger than those of the pronotum; on each elytron there are eleven rows of punctures, including a short scutellar 10% and an extreme marginal 10% interstices very finely punctate, some of them tending to be costate towards the apex: surface not granulose Underside . characters as under the genus.

Length, 2 mm

CEYLON. Halupaham, Haldummulla

Type in the British Museum Described from one example.

154. Chætocnema kanıka *, sp nov.

Body ovate Colour black, antennæ and legs dark brown, the

posterior femora sometimes of a deeper shade

Head finely granulate and without punctures, on each side close to the eye there is a channel, which is not oblique, these channels give the front the appearance of being slightly raised, frontal elevations and caring absent. Antennæ extending to a little distance beyond the humeral callus, first two segments as stated under the genus, third to sixth more slender and more or less nearly equal, the rest somewhat thicker Prothoras broader than long, sides almost straight, surface convex, finely granulose, closely punctate, the punctules round and not elongate as in Ch longipunctatus Scutellum small triangular with the apex broadly rounded, surface impunctate Elutra slightly broader at base than prothorax, regularly punctate-structe, each elytron having eleven rows, including a short scutellar low and an extreme marginal row, interstices very finely and minutely punctate, some of them tending to be costate near the apex Underside characters as stated under the genus

Length, 2 mm ? CALCUTTA

Type in the Indian Museum

Described from two examples in the Indian Museum The labels on these have simply the word "Calcutta", but it is doubtful whether the locality at which they were captured is actually Calcutta

155 Chætocnema cognata, Baly

Chatocnema cognata, Baly, Trans Ent Soc Lond 1877, p 168 Chatocnema squar osa, Baly, Trans Ent Soc Lond 1877, p 169

Body ovate Shining coppery- or brassy-green; the five or six basal segments of the autennæ and the legs brown, the rest of the antennal segments and the posterior iemora pitchy, but with a

metallic tinge, labrum shining black.

Head with vertex somewhat convex, the whole surface finely granulose and deeply but not very closely punctate, frontal elevations absent, as is usual in this genus. Antennæ less than, or about half of, the length of the body, third to sixth segments slender, the following segments somewhat thickened. Prothorax about twice as broad as long, sides straight but oblique, rounded and converging in front, anterior angles thickened, posterior widely rounded, surface transversely convex, minutely granulose, distinctly but not very closely punctate, the punctures being closer at the sides than in the middle. Scutellum small, triangular and impunctate. Elytra broadly ovate, somewhat narrowed towards the apex, punctate-striate, each elytron having eleven regular.

^{*} Sanskrit, conveying the sense of minuteness

longitudinal rows, including the scutellar and the extreme maiginal 10w, along the scutellar row there are additional punctures besides those of the regular series, interstices towards the apex and sides tending to be costate, surface of the interstices finely granulose, not punctate. *Underside* punctate, elytral epiplema with 10ws of punctures, other parts as under the genus

Lengths of the types of Ch cognata and Ch squarrosa, 2 mm.,

some other examples are 21 mm long

INDIA (Breingham, type-locality of both cognata and squariosa) Bengal Calcutta, 4-21 viii 1906 (Indian Museum) Bihar. Pusa, 24.1 & 4 ii 1906, on grass (Pusa Coll), Kieipur, Purnea District, 8.x 1915, at light (O Paiva, Indian Museum). United Provinces West Almora, Kumaon (H G Champion) Madras Rambha, Ganjam District, at light (N Annandale, Indian Museum); Chipui upalle, Vizagapatam District (R S

Patuck) CEYLON : Hambantota, 1x 1890 (H P Green)

Types of both cognata and squarrosa in the British Museum I have examined them both and cannot find any difference sufficient to justify the maintenance of Ch squarrosa as a separate species. The only distinction on which Buly seemed to rely is the length of the antennæ, in Ch squarrosa they are "less than half the length of the body" and in Ch cognata they are "half the length of the body" Perhaps he was justified in taking the view which he did take when he had the two insects before him; but having before me thirty-two examples from various localities, I believe that the slight difference in the length of the antennæ is not sufficient to separate them into two species.

156 Chætocnema altıcola sp. nov.

Form ovate, but appearing more nearly parallel-sided than some species. Colour bronzy, the six basal segments of the antennæ front and middle legs, posterior tibiæ and taisi, dark brown, sometimes mixed with pitchy, the rest of the antennal segments blackish.

Head broad, closely punctate, the transverse line between the roots of the antennæ well impressed, the oblique lines extending from either end of this transverse line towards the eyes being almost obsolescent. Antennæ somewhat thick, reaching to about the humeral callus or a little beyond it, flist segment large and club-shaped, second also equally thick but smaller, third to sixth less thick, third and fourth about equal, fifth somewhat longer than sixth, from the seventh to the eleventh the segments are thickened and nearly equal. Prothorax broader than long, sides nearly straight, surface convex and not very closely punctate, some of the punctures larger than others, besides being punctured the whole surface is minutely granulate. Scutellum small, trangular with the apex broadly rounded and the surface finely granulate. Elytia not broader at base than prothorax, regularly punctate-striate, each elytron having eleven rows, including a

scutellar row and an extreme marginal row, inside the scutellar row there may be some additional punctures, surface round the scutellum depressed and more or less wrinkled, interstices not smooth, indistinctly reticulate and granulate *Underside* not very closely punctate and sparsely covered with silvery hairs

Length, 21 mm

United Provinces N. Kumaon, Laptel, 15,000 ft (H G. Champion)

Type in the British Museum Described from four examples

157 Chætochema belli, Jacoby

Chætocnema bells, Jac, Ann Soc Ent Belg xlvm, 1904, p 892

Body ovate, pointed behind Colour dark menous, with much less greenish tint than in some species, the four basal segments of the antenna and the legs are yellow, the seven apical segments of the antenna dilute pitchy, posterior femora pitchy.



Fig 80 - Chalocnema belly, Jac

Head with vertex finely and rather closely punctate, with a very narrow oblique supra-ocular impression on either side. Antenne scarcely extending to the middle of the elvtra, slender, second segment almost equal to the third, third to sixth slender and

almost equal in length, the following segments slightly thicker and scarcely longer *Prothorux* about twice as broad as long, convex, lateral margins straight, surface crowded with fine punctures at the sides, somewhat less closely punctate in the middle, the basal margin with no impressed channel, in some examples a very fine granulation can be seen under a high power. *Scutellum* small, triangular, impunctate *Elytra* subcylindical, slightly widened at the middle, not depressed at the base, punctate-striate, each elytron having eleven rows, including a short scutellar row and an extreme marginal row, near the short scutellar row are some irregularly-placed extra punctures, elytral punctures much longer than those on the pronotum, intervals flat and impunctate, but those towards the lateral margins tend to become costate. *Underside* breast and abdomen finely punctate

Length, 2½ mm

BOMBAY Khandesh (T R Bell)

Type in the British Museum

The three following species are recorded here for the sake of completeness. The descriptions are free translations from the original Latin and French. No attempt has been made to incorporate these forms in the key on p. 203

Chætocnema nigrica, Motschulsky.

Tlanoma nigrica, Motsch, Etud Ent vn, 1858, p 106

Body short, orate, subconvex, shining, black, upper side subencous, the basal segments of the antennæ, the tibiæ, and taisi brown

Head subrotund, truncate in front, impressed with a transverse line in the interocular space, interantennal elevation cuneiform and subcarriate, eyes large, subprominent; labrum transverse, sinuate in the middle Prothorax broader than long, somewhat narrowed in front, basal margin slightly produced in the middle, anterior angles subacute, posterior angles rounded, sides somewhat rounded, surface extremely sparsely and finely punctate, almost glabrous, shining, margined Scutellum triangular, impunctate. Elytra somewhat broader than prothorax, deeply punctate-striate, interstices flat, impunctate, humerus distinct Underside shining, impressed with some punctures, first segment of tarsi triangularly elongate, third segment bilobed

Length, $\frac{2}{5}$ $-\frac{3}{4}$ $\frac{1}{5}$, $\frac{3}{5}$ $\frac{1}{2}$ $\frac{1}{5}$ BURMA

Smaller and blacker on the underside than Tlanoma dentipes, with the elytra proportionately shorter and the humeral angles a little more distinct

Chætocnema puncticollis, Motschulsky

Chætocnema puncticollis, Motsch, Etud Ent. vii, 1858, p 107

Another Indian species more related to our [European] Tlan oencinna, Marsh, is my Tlan puncticollis. It resembles the first-named in toil and shape, but its pronotum is more rectangular, more transverse, scarcely narrowed towards the head, the last-named character accentuates the anterior lateral angles of the prothorax, the pronotal punctuation is stronger and closer, while the punctures on the elytral strim, on the contrary, are somewhat finer

[Exact measurements and locality not stated]

Chætocnema gracilis, Motschulsky.

Tlanoma gracilis, Motsch, Etud Ent. vii, 1858, p. 107

A third species from the same country [India] is one-half smaller, with the prothorax rectangular but more appreciably produced towards the scutellum, the anterior lateral angles of the prothorax are prominently extended, the sides more rounded. The humeral angles of the elytra are more rounded than in the preceding species

[Exact measurements and locality not stated]

Genus PODONTIA, Dalman

Podontia, Dalman, Ephemendes Entomologica, 1824, p 28, Chapus, Gen Col vi, 1875, p 29

GENOTYPE, Chrysomela lutea, Oliv, 1790 (Galle uca grandis, Giondal, 1808)

Insects usually of large and massive build, broad, oblong, the largest representatives of this group from our regions Head as broad as the deep emargination of the front margin of the prothorax, verter not very convex, often more or less flat, surface generally very uneven, with a deep rounded impression on either side above the eye and continuing round the base of the intenna, these two impressions producing a longitudinal elevation in the interantennal space, labrum short, broader than long, maxillary palpi somewhat large, second and thiid segments more or less conical, fourth oval and a little shorter than the preceding segment, eyes convex, very often their bases seem raised owing to the depression round them Antennæ short, only extending to the humerus of the elytia and, relative to the massive build of the insect, slender, the four basal segments always different from the next seven, which are somewhat thicker, opaque and pubescent, and generally more or less nearly equal Prothorax broader than long, anterior margin deeply emarginate, posterior

PODONTIA 221

smuate with a median lobe, sides straight from the base to beyond the middle, where they bend inwards, the prothorax being thus narrowed in front; anterior lateral angles produced, the posterior angles are right angles, although they may be rounded or slightly drawn out; surface always uneven, with depressions and elevations. margins all round often thickened and jounded Scutellum smail compared to the large size of the body, triangular Elytra broader than prothorax, parallel-sided, rounded at apex, surface smooth, each elytron with eleven very regular longitudinal lows of punctures, including a scutellar and an extreme marginal row. interstices smooth and flat, that between the extreme marginal row and the row next within it broader than the others, epipleura broad at base, narrowing considerably to the apex Underside prosternum broadened in front, elevated between the coxe, longitudinally channelled, dilated and triangularly excised behind, the apex of the mesosternum fitting into it, anterior coval cavities closed behind, mesosternum very short with hind margin rounded and excised to receive the front of the metasternum comparatively short and robust, anterior tibia somewhat dilated at the apex, but not emarginate, middle tibue distinctly dilated at the apex, where they are channelled on the outer side, the apex with a small sharp spinule underneath, posterior femora dilated more than the other femora, but not so much as in some other genera of the HALTICINE, channelled on the underside and having a dentiform expansion about the middle, posterior tibize longer than the anterior or middle tibie, strongly dilated and channelled on the outer side towards the apex, the margins of the channel being densely covered with cilia-like hairs, the external margin raised into an angle at its beginning, the extreme apex furnished at the outer corner with a small sharp spinule, tarsi large, first segment well developed, second small, thud very large, bilobed. fourth long, extending much beyond the bilobed segment, and ending in two strong billd claws, the smaller member of each claw is on the inner side

The secondary sexual characters in this genus are as follows in the male (1) the first segment of the anterior and middle tars is dilated and convex, (2) the posterior border of the last abdominal sternite has a deep and narrow emargination on each side, in the female (1) the first segment of the anterior and middle tars is triangular but not so dilated towards the base, (2) the posterior border of the last abdominal sternite is not emarginate at all, (3) the dentiform expansion about the middle of the posterior femora is not so accentuated as in the male

This is a very homogeneous genus, the species of which are

easily distinguishable by their colour-characters

Range China Indo-China Burma Malay Peninsula, Java, Sumatia Philippines Celebes, New Guinea, Australia

Key to the Species

1 Upper side of one unitorin colour, without markings
Upper side with markings
2 Upper side uniform walkers become

2 Upper side uniform yelluw-brown Upper side deep chestnut-1. d

3 Underside black Underside vellow

4 Elytra chequered, monated or peckled with black or deep pitchbrown on a brown buckground Elytra with black spots and patches

on a brown background

5 The two elytic together inve fourteen black spots, some or which fuse and form bands acrosseach elytion, in some varieties these bands are very broad and the colour pitch-brown

The two elytra together have ten black spots, some of which by fusing often form one band across the middle of each elytron P lutea, Ohv, p 222

P infocastanea, Baly, p 223 P pitalohita, sp. n , p 224

P congregata, Baly, p. 224

Γυ 2**35.**

P quatuor decumpunctata, L,

P affines, Groud, p 227.

158. Podontia lutea, Olivier

Chrysomela luteo, Oliv, Encyclopédie Méthodique, v, 1790, p 692, id, Entoinologie, 1807, p 539 pl 1, fig 13
Gallei uca grandis, Grondal in Schonherr's Synonymia Insectorum, 1, 2, 1808, p 288

Form of the body as stated under the genus Colour shining yellow-brown, tibis, tar-1, and the seven apical segments of the

antennæ black, femora slightly tinged with red

Head with vertex somewhat convex, the fine longitudinal impression in some cases absent, surface extremely finely and sparsely punctate, and sometimes the extremely fine superficual granulation produces a duliness Other structures, including the antennæ, are as stated under the genus Prothorar of the form described under the genus, surface apparently impunctate, but in certain lights it is seen to be extremely minutely and sparsely punctate, it also presents an extremely fine granulation; the depression on either side of the middle part of the disc is sometimes very deep, while, external and somewhat posterior to each of these depressions, there is on either side another small one, the two together in some cases producing a large ill-defined excavation, in front of the basal median lobe is a smaller Soutellum small, impunctate Elytra in shape and punctuation as described under the genus, the marginal broad nterstice is somewhat raised, more so towards the aper de finely and thinly pubescent

Length, 13-151 mm, breadth, 71-82 mm

223

BURMA Kalaw, 4300 tt, 4 v 1918 (A G R, Pusa Coll) CHINA Macao (F W Terry) INDO-CHINA Tonkin, Hoabinh, vin 1918, and Tien Su, 4 \ 1917 (R Vitalis de Salvaza)
FORMOSA Horisha, v -vin 1918 (H Kawamaru)

In the original description the locality mentioned is "East INDIES," a very vague expression which implies that the insect came from the East and does not necessarily mean India no authentic record to show that the insect occurs in India proper

Type presumably in the Paris Museum

159. Podontia rufocastanea, Baly

Podontia rufocastanea, Baly, Ann & Mag Nat Hist (3) Avi, 1865, p 405

Body broad, oblong Colour shining deep chocolate- or chestnut-red, underside (that of the prothorax excepted), legs,

and the seven apical seguents of the antennæ, black

Head with vertex somewhat convex, impunctate and with a faint longitudinal median impression, there is a deep channel above each eye, this channel being continued into the interantennal space, the latter space contains a broad longitudinal raised area Antennæ extending to a little distance beyond the base of the pronotum, the first four segments shining, the lest opaque, pubescent, first segment long, club-shaped, second small, shorter than third, fourth equal to third, from the with to the end the segments are more or less nearly equal Prothorax broader than long (length three, breadth five, millimetres in the example measured), its shape as described under the genus, surface uneven, but smooth, and apparently impunctate, at certain angles, however, extremely fine and scattered punctures are visible, at least in the type-specumen, on either side of the middle of the disc there is a depression which may be deep or shallow, large or small, and other small depressions may be present in individual specimens, mostly towards the base or sides, the species presenting a good deal of variation in this respect Scutellum shaped as described under the genus, impunctate. Elytra toim and other characters as is normal in this genus, the punctures of the rows are fine. the last and broadest interstices somewhat raised, more so towards Underside abdominal sternites finely pubescent the apex

Length, 131-131 mm, breadth, 71-73 mm

The type-specimen is labelled merely "INDIA" Other examples are from Assam (W F Badgley), Khasi Hills, Shillong, xi 1916 and vui -x 1919 (Fletcher, Pusa Coll), N. Khasi Hills (Godwin-Austen, Indian Museum).

Type in the British Museum.

160 Podontia pitalohita*, sp nov

In general appearance and most of the characters strongly resembling *P rufocastanea* Elytra shining chocolate-red, the rest of the body yellow-brown with some parts, such as the pronotum

and femora, tanged with red

Head with the longitudinal median impression deeper, the channels round the bases of the antennæ deep, and a little area along these channels bearing some fine punctures comparatively long, extending somewhat beyond the humeral callus, more slender than in other species, first segment long and club-shaped, second small, shorter than third, fourth about equal to the preceding segment, the following segments opaque and not more thickened Prothorax · torm as described under the genus, surface somewhat dull (probably due to the extremely fine granulation which can be seen under a high power), apparently impunctate, but at certain angles extremely fine and scattered punctures are visible, the lateral margins thickened and rounded, with a row of punctures along them, there are three depressions, one on each side of the middle part of the disc and a third, which is small, in the middle in front of the base Scutellum small, impunctate Elytra as described under the genus, the broad marginal interstices are raised, while a little behind the humerus on each side the surface is depressed, the punctures of the rows are more accentuated than in other species. Underside finely pubescent

Length, 114 mm; breadth, slightly less than 7 mm

Assam: Sylhet (Bowring Coll) Described from one example.

Type in the British Museum

161. Podontia congregata, Baly

Podontia congregata, Baly, Ann & Mag. Nat. Hist. (3) xvi, 1865, p 405

Body shaped as is usual in this genus. Colour shining redbrown, elytra with a lighter background showing darker irrorations along the suture and margins; these irrorations vary from red-brown to pitch-brown or almost black, in the latter case the pronotum and the underside share the same colour, the sutural band of irrorations is twice constricted, once at the middle and again near the apex, the whole elytra may be completely covered with irrorations, but in this case the latter are more or less obsolete towards the apex (this variety is shown in fig. 81)

This species conforms to the type of structure described under the genus. The posterior lateral angles of the prothorax are somewhat drawn out; the surface of the pronotum has the impressions and depressions arranged in a similar way to that of

^{*} Sanskrit, " yellow-red "

P. affins, with minor variations, the elytra and the underside

call for no special remark

Length, $1\dot{1}_{2}$ mm, breadth, $6\dot{2}$ mm. These measurements are from the type, other examples before me measure $14\frac{2}{4}$ mm in length and 8 mm in breadth

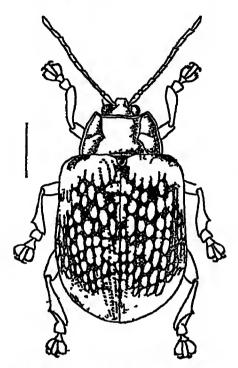


Fig 81 -Podontia congregata, Buly

The locality of the type was unknown to Baly Other material has been collected as follows Bombay Kanara (Jacoby Coll.)

Malabae (ex Coll F. Mooie) Nilgiri Hills (G. F. Hampson);

Karteri Road, 4000-8000 ft, 27 viii 1917 (Naganath, Pusa Coll.);

Coonoor, 1500-2000 metres (about 4900-6500 ft) 13-30. vi.

1901 (M. Maindron)

Type in the British Museum

162. Podontia quatuordecimpunctata, L.

Chrysomela quatuo decimpunctata, L, Syst Nat ed xii, 1767, p 599, Fabr, Spec Ins i, 1781, p 117, Ol, Ent v, 1807, p 589, pl 4, fig 42

Podonta quatuordecimpunctata, Baly, Journ of Ent 1, 1862, p 451, Jac, Ann Mus Civ Genova, xxvii, 1889, p. 204, Stebbing, Indian Forest Insects, 1914, pp 258-260

In form and size this species resembles the type of the genus (P. lutea), and it is one of the largest Halticinz from our regions.

VOL 11

It has a wide distribution also beyond our faunistic limits and exhibits much variation in colour and markings. The general colour is brown, which varies from a lighter to a much deeper shade, the latter being almost a dark red, in some cases the elvira are lighter than the pronotum or the underside On the elytra are the following black spots and patches (1) two spots on the suture, one behind the scutellim and the other near the apex. each of these being common to the two elytra, and the apical one always the larger of the two, (11) on each elatron, in a line parallel to the suture and close to it, two large patches, (in) in a line commencing from the humerus and parallel to the lateral margin there are usually four patches, but in many specimens six (presumably in the examples from which the original description was drawn up there were only four)—the first is a large roundish patch covering the humerus, the second a small spot (usually absent) on the margin a little behind and below the humerus, further back is the third spot, also smaller than the fourth patch, which latter is situated next to it (and on a level with the second of the two in the inner series), the fifth lies on the bend where the margin of the elytron curves in towards the apex, and the sixth is a small streak staining the apical angle, and absent in some specimens This pattern of the markings is very variable, as is also their colour, and it seems that the varieties tend to be fixed in particular In five examples from Wellesley Province, Federated Malay States (British Museum), the spots are reduced in number. in the lateral marginal line six spots are present, but that on the apical angle coalesces with the apical one of the two spots on the suture, and is also sometimes joined by a streak to the fifth spot of the lateral marginal series. In this teen examples from Burma the patches are generally much enlarged and have coalesced to form a lateral band, but not to such an extent as to obliterate completely the original plan, the humeral patch is fused with the first patch of the subsutural series, and the first common sutural spot is also sometimes joined to these two fused spots by two oblique streaks, the second patch of the subsutural series is enlarged and fused with the fourth of the marginal series, the hand so formed sometimes attaining very great breadth, the fifth and sixth spots of the marginal series and the second apical sutural natch (common to the two elytra) are all three fused, this pattern, derived from the original plan, is fairly constant, showing slight variations within itself, the colour of the spots and patches is In ten examples from the dark ned-brown and not black Andaman Islands the spots have a tendency to broaden and fuse in a similar way as in the Burmese specimens, but not to the same extent, and then colour remains black. In one specimen from Assam, in which the second patch of the substitural series and the fifth of the marginal series have fused, there is a long black band along the n argins from the humerus to the apex

In structure this species closely resembles the form described

The broad marginal interstice is raised as typical of the genus throughout

Length, 12-162 mm, breadth, 62-92 mm.
Sikkim Ruugbong Valley, Gopaldhara (H Stevens) (W. F Badgley), Khasi Hills, Nongpoh, 3000-5000 ft, vi 1905 (Pusa Coll), Patkai Mts (Doherty) Sylhet BURMA: Rangoon, vn 1886 (Fea), Pegu (Atkinson), Bassein, Bhamo (Fea) ANDAMAN Is (Roepstorff) MALAY STATES Penaug, Wellesley Province (H N Ridley) CAMBODIA

Location of type unknown to me

For an account of the immature stages and liabits of this species see p 102

163 Podontia affinis, Grondal

Galleruca affinis, Giondal, in Schonherr, Syn Ins 1, 2, 1808. p 289

Podontia affines, Sturm, Uat Kafer-Sammlung, 1843, p 286, Jac. Ann Mus Civ Genova, xxvii, 1889, p 204

Podontia impressicollis, Sturm, Cat Insecten-Sainmlung, 1826,

Somewhat smaller than the type of the genus Colour of elytra shiny brown, pronotum and underside darker chining There are ten black spots and patches on the elytra, disposed as follows -(1) two sutural spots, each common to both elytia, one roughly pear-shaped, varying in size, behind the scutellum, and a second, more or less round, near the apex. (11) on each elytron a round spot covering the humerus, (iii) lying in a median transverse line, two patches which often coalesce to form a band across the elytron, (iv) the last is a roundish spot nearer the margin on a level with the second sutural spot. These spots vary in size to some extent; while the apical sutural angles and the whole lateral margin are narrowly stained red-brown

Head as described under the genus, the longitudinal vertical impression and the preocular and interantennal impressions very deep, making the front of the head look considerably lough antennæ call for no detailed description Prothorar of the form characteristic of the genus, surface with strong impressions and excavations, two impressions and excavitions along the median longitudinal line, while external to these on either side runs a longitudinal impression extending from the front margin and curving inward till it falls into an excavation, outside which is another smaller excavation, bounded on its outer side by a strong ridge; perpendicular to the basal margin, and midway between the median lobe and the hind angle, there is on either side another deep short impression Scutellum small, narrow. Elytra as described under the genus, the broad marginal interstice raised. Underside thinly and finely pubescent

Length, 11 mm, breadth, 6 mm.

SIRKIM. Mungphu (Atkinson) ASSAM Khasi Hills, Nongpoh, vii 1907 (D. Nowi ojec, Pusa Coll) Burma Momeik (Dohei ty), Bhamo (Fea). Tenasserim Thagata Tonkin Hoabinh, viii 1918 (R Vitalis de Salvazu) The type-locality is Java, and the species has evidently a wide distribution

Type of P. impressicallis in Sturm's Collection, the location of

that of affines is unknown to me

Genus OPHRIDA, Chapus

Ophiida, Chapuis, Gen Col xi, 1875, p 31

GENOTIFE, Ophrida guttata, Chap (Malacca)

The difference between this genus and Podonia her in (1) the somewhat smaller size of the insects belonging to the former, (2) the surface of the pronotum being much smoother in Ophrida, and (3) the structure of the prosternum, which in Podonia is triangularly cut or depressed at the hind end, so that the mesosternum in repose fits into it, while in Ophrida this end of the prosternum is truncate, the edge being straight (see fig 82)

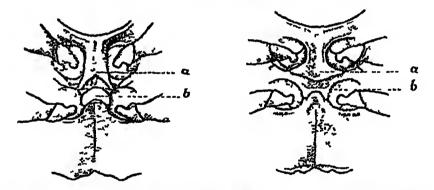


Fig 82—Part of the underside of (on the left) Pulontia ap and (on the right)

Ophrida sp, showing parts of the pro-, meso- and metastern and
the bases of the first two pairs of legs a, intercoxal process of
prosternum, b, mesosternum

Body in many species somewhat narrowed behind Head broad, fitting into the emargination of the front margin of the pronotum, somewhat convex between the eyes, the frontal elevations are obsolete, and generally there is a narrow impression round the base of either antenna, eyes moderately convex, more or less oval. Antenna short extending very little beyond the humerus, the three basal segments shining, the rest pubescent; first segment the longest and club-shaped, second small, always much shorter than third, the following segments more or less nearly equal to each other and cylindrical Prothorax much

broader than long, front margin widely emarginate, basal margin sinuate, with a slight median lobe which in some species is not prominent, sides straight at the base, then slightly bulging out and abruptly curved in again, anterior and posterior angles acute in the type-species, but in some species they may be rounded; surface somewhat convex, obsoletely impressed in the type-species, but in other species the impressions are more marked somewhat broad, triangular with apex rounded Elytra slightly broader at base than prothorax, sides more or less nearly parallel, in some species somewhat narrowed towards the apex, each elytron with eleven regular longitudinal rows of punctures, including a scutellar and an extreme marginal low, interstices usually flat, except the last, 1 c, that between the extreme maiginal row and the row next to it, which is broader than the others, in some species the other interstices are also somewhat Underside generally thinly covered with him hairs, legs more or less robust, front tibia teebly dilated at the apex and ridged on the outer side; middle tibia similarly ridged, a little more dilated at the apex, where it is excavated, the sides of the excavation being raised into a pointed angle at a little distance from the apex, hind temora strongly incressate, oval, channelled on the underside, hind tibiæ longer than the tront or middle tibiæ, gradually dilated towards the extremity, ridged on either side for three-quarters of their length, excavated on the last quarter (measuring from the extremity), the borders of the excavation densely lined with cilia-like haus, on the outer side the excavation is raised into an angle at its commencement, the extremity of the tibin is truncate, the external lobe of the truncate end simple, the internal lobe furnished with an acute spine, while between the two lobes there is a bent spur; tarsi robust, first segment long and triangular, second very short, third twice as broad, bilobed, fourth projecting beyond the bilobed segment and terminated by bifid claws

The secondary sexual characters are similar to those stated under the genus Podontia, 1 e, in the male the first segment of the anterior tursus is dilated and convex and the last ventral segment of the abdomen is notched on each side

Range China, India, Sumatia, Malacca, Australia

Key to the Species

1 Body very hand, with rows of silvery hairs along the longitudinal series of punctures on the elytra

Body without hairs on the upper side 2 Elytia chequered, in orated or speckled with red-brown and dull yellow, the irrolations sometimes forming indistinct oblique bands on the elytia

Elytra with yellow spots on a red-brown

background

[p 280 O hir suta, Stebbing,

O marmoreu, Wied,

3

3 Yellow spots, approximately 38 in number, are present on the alternate interspaces on the inner part of the elytral surface.

Yellow spots, approximately 93 in number, are present on all the interspaces of the elytra [p 232. O. flavopustulata, Baly,

O. binduta, sp n, p 233

164 Ophrida hırsuta, Stebbing

Blepharida hii suta, Jacoby MS, Stebbing, Indian Forest Insects, 1914, p 260

Body oblong, narrowed behind General colour yellow with red-blown mottling on the elytra; the yellow colour may be darker in some specimens, in which also the mottlings are correspondingly darker; several somewhat irregularly arranged transverse bands of the inottlings can be recognized; the colour is much darker along the side-margins of the prothorax and the scutellum is dark red-brown, on the underside in some cases the front and middle legs are paler than other parts. The whole insect is covered with fine silvery pubescence, on the elytra the

fine hairs arise from the rows of punctures

Head vertex not convex, and having a median longitudinal impression, the channels round the eyes and the bases of the antenne are present, but rendered indistinct owing to the presence of hairs, eyes rather large and black extending a little beyond the humeral callus, then structure calls for no specific comment Prothoran about twice as broad as long (length one and a half, breadth three, millimetres), sides straighter at the base and uniformly rounded and narrowed in front in this differing from the generic type, anterior lateral angles not produced, somewhat rounded, posterior lateral angles almost right angles, basal margin slightly sinuate, surface uneven, although the basal depressions are not so pronounced as in other species, minutely and closely punctate, the punctures being seen with difficulty owing to the hairs; along the lateral margins the punctures are large and confluent Scatellum also harry broader than prothorax, each with eleven very regular rows of punctures, all the interstices are somewhat raised throughout, and in this the insect differs from the genotype Underside as stated under the genus

Length, 72-8 mm; breadth, 32-4 mm According to Stebbing the length may be 15 mm, but none of the specimens before me,

which were collected by him, reach that length

BOMBAL Poons, Bhambulda Reserve (Forest Department), vn-vn 1901 (Stebbing) The insects were defoliating Boswellia seriata, Roxb (Natural Order Bursenaces), this plant is of economic importance, being a source of timber and of a resinous gum (Indian name guqul), used as frankincense

Type in the British Museum In that institution there are two

insects collected by Captain Boys in the twenties or thirties of the nineteenth century, labelled only "E. India, Boys"; one of these insects is marked "type and labelled in Jacoby's handwriting "Blepharida hirsuta," but I am unable to trace any published description of it by Jacoby. In 1901 Stebbing collected several specimens from Poona, which were identified in the British Museum as Blepharida hirsuta, Jacoby; and in 1914 Stebbing published a short description of the insect (loc. at.) without knowing that Jacoby's name was a manuscript name. I have no doubt that Stebbing's insects from Poons are the same species as those of Boys which bear Jacoby's MS, name, and according to rule the authorship of this species must be ascribed to Stebbing. But I think it should be placed in Ophrida at present, although it is possible that it may be made the type of a new genus, considering the somewhat different shape of its prothorax, the presence of coste on the elytral interstices, and the complete harriness of the body. Without more material I do not, however, propose to erect a new genus From amongst Stebbing's specimen's in the British Museum I have selected a good one as the type of this species

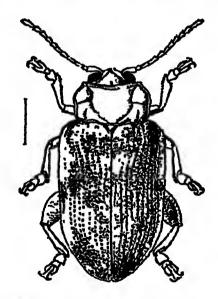


Fig 88 -Ophrida marmorea, Wied

165 Ophrida marmorea, Wiedemann

Haltica marmorea, Wied, Zool. Mag 1, 3, 1819, p. 181
Podontia mouhoti, Baly, Trans Ent Soc Lond (3) n, 1865, p 431.

Body oblong, somewhat narrowed behind. General colour dark red-brown, elytra mottled with vellow, or sometimes the yellow colour predominates and forms the background, in which

case the mottling is red-brown, an industrict arrangement in oblique bands across each elytron may be recognised, and the

centres of the punctures are always deep red-brown

Head with vertex extremely minutely punctate, the channels round the eyes are deep Antennæ usually formed as is normal in the genus, but in some examples the fourth segment appears to be somewhat longer than the thud, from the fifth the segments are slightly more thickened, the first segment is always thickened and club-shaped. Protho ax form as stated in the description of the genus, surface uneven, the lateral depressions varying considerably, on either side, perpendicular to the front margin, is a long deep impression, and at right angles to it, lying transversely almost at the middle of the length, is another impression extending to the lateral margin, often this latter impression is full of deep punctures, while sometimes it is quite obsolete, opposite to the long impression perpendicular to the iront margin, and a little external to it, there is on either side a short and deep impression perpendicular to the basal margin, the basal part of the surface crowded with deep punctures Scutellum smooth impunctate Elytra as described under the genus, interstices flat, except towards the base, where they appear to be somewhat raised Underside covered with fine hairs

Length, 101 mm , breadth, 51 min

Bengal. (type-locality), Buxa, Duars, v 1907 (D. Nowrojee, Pusa Coll) United Provinces Jolikote, 9. v 1915, on cherry (Pusa Coll), Kumaon, Tanakpur (H G Champion) Assam Naga Hills (Captain Butlei) Burma Lashis, 5 iv 1918 (A G R, Pusa Coll), Mayinyo, v 1910 (H L Andrewes), Bhamo, viii 1885 (L Fea); Rangoon, Magai Forest, ii 1905 (Stebbing), defoliating Holari lina antidysenterica Nilgiri Hills (G F Hampson), Maduia Java Siam Laos (type-locality of P. mouhoti), Koh Si Chang, iv 1919 (E W. Trotter)

Type and another original example in the Copenhagen Museum

(teste Kai L Henriksen, in lift, xi 1925)

166 Ophrida flavopustulata, Baly.

Blepharida flavopustulata, Baly, Cist. Eut 11 1879, p 441

Body ovate, somewhat narrowed behind Colour shining redbrown; labrum, tarsi and many small roundish spots on the elytra, arranged in longitudinal lines on the interstices, yellow, breast black; apices of mandibles pitchy-blackish. The yellow spots on the elytra are not arranged according to any very regular pattern, they are about thirty-eight in number, roughly speaking, there is a longitudinal row along the sutural interspace, then on alternate interspaces there are two more rows, the spots in each of these rows being placed at some distance one from the other; then, after an interval of two interspaces there are spots along the three inarginal interspaces, situated in basal, median, OPHRIDA 233

postmedian and apical groups, there are also a few spots, some

of which are elongate, at the base of each elytron.

Head vertex with round punctures, face between the eyes impressed on either side with an ill-defined, coarsely punctured, oblique channel; clypeus coarsely punctate Antennæ as stated in the description of the genus Prothorax in the type-specimen tous millimetres broad, and two millimetres long in the middle (Baly gives three times as broad as long in his original description, which was drawn up from the then unique type-specimen), sides of the form usual in this genus, anterior angles slightly produced and curved outwards, posterior angles somewhat produced and acute, surface irregularly excavated at the sides, impressed with large deep punctures, which are rather crowded at the base and which form irregular rows at the sides, iemainder of the surface Scutellum of the form usual in the genus. finely punctate Elytia with interspaces distantly impressed with very minute punctures.

Length, $8\frac{1}{2}-10 \text{ mm.}$, breadth, $4\frac{1}{2}-5\frac{1}{2} \text{ mm}$

Assam. "The Hills" (type-locality) This species was described from one example collected by A W Chennell in his travels in Assam Since then other specimens are forthcoming, with a more accurate record of locality, namely Khasi Hills

(Godwin-Austen).

Baly placed this species in the allied genus Blepharida, which was erected by Rogers (Proc. Ac Phil. vin, 1856, p 29) for an American species. I have not seen the genotype of Blepharida In placing the present species in Ophrida I have followed Chapuis, who drew up a statement of the distinctions between the three genera Podontia, Ophrida, and Blepharida, based on their anatomy, especially the relations between the pro- and mesosterna. If Chapuis's arrangement is followed, the present species falls in the genus Ophrida.

167. Ophrida binduta *, sp. nov.

Body oblong-ovate Colour dark red-brown, with numerous yellow spots on the elytra; these are present on all the interspaces and number about ninety-three, breast, tibes, posterior femora (except part of the upper side) black; apices of mandibles blackish-

pitchy, antennæ piceous, especially the apical segments

Head with vertex not very convex, with one or two punctures near the eyes, and the rest of the surface of the vertex extremely minutely punctate, the channels round the eyes are deep and lined with punctures. Antennæ constructed as described under the genus. Prothorax with anterior angles somewhat roundly produced, the posterior more or less right angles; surface uneven, with the lateral depressions not very deep and containing punctures, while there are a few similar punctures towards the

^{*} Sanskrit, "spotted"

base, and besides these the whole surface is covered with extremely minute punctures. Scutellum smooth, impunctate. The elyina and underside call for no special remark

Longth, 91-10 mm, breadth, 51-53 mm.

ASSAM (W. F. Budgley), Shillong, 11. vi. 1918, 2 examples (V. R. Raq, Pusa Coli).

Type in the British Museum Described from three examples.

Genus CREPIDODERA, Chevrolat.

Crepidodera Chevr., in D'Orbigny, Dict Univ. Hist Nat iv, 1844. p 441, Chapuis, Gen Col xi, 1875, p. 53

GENOTYPE, Chrysomela nutidula, L. (Europe)

Chevrolat founded this genus on the piesence, in front of the basal line of the pronotum, of a transverse impression, bounded on each side by a raised fold He, moreover, cited many Linneau and Fabrician species, including them in this genus At present the presence of the four following characters in a beetle of this group will distinguish it from all the other genera. (1) the thickened hind femora, (2) the closed anterior coxal cavities, (3) the fact that the coxe are only slightly distant, (4) the antebasal pronotal channel These beetles are oval or oblong-oval, the Indian species are very small (one and a half or two millimetres Head with front carinate or depressed in length) generally long, more than half the length of the body, with the apical segments slightly thickened or, at any rate, not attenuated, first segment long, second oblong-oval, half the size of the first, third and fourth subequal, the following more elongated and gradually thickened, this is generally the structure, but it values to a certain extent Prothor ax subquadrangular, somewhat broader than long, sides slightly rounded, lateral edges sometimes serrated, surface convex with a large and deep impression along the posterior margin, limited on either side by a small longitudinal depression *. Scutellum triangular. Elytra oblong or oval, moderately convex and more or less punctate-strinte Underside prosternum moderately narrow, convex, depressed behind and produced so that, meeting the extensions of the epimera, it closes the anterior coxal cavities behind, posterior femora moderately thickened, posterior tibiæ sometimes more or less channelled or depressed and provided at the apex with an extremely small sharp curved spine, taisal claws appendiculate

Range World-wide

^{*} These longitudinal impressions are absent in C minuta which, as stated below, is somewhat doubtfully placed in this genus

Key to the Species

 Elytra and apex of antennæ black, the rest brown No such combination of colours

2 Insect entirely yellow

Insect not entirely yellow
Insect tawny brown, with the suture
and lateral margins obscure
fuscous

Insect with the elytra metallic-blue

C ingripenius, Motsch, p 237 2 C minuta, Jac, p 285 3

C obscurofasciata, Jac, p 236 C orientalis, Jac, p. 236

While it has been possible to include Motschulsky's species nigripennis in the above table, his species affinis is omitted owing to the inadequacy of the description and uncertainty as to its identity, remarks on it will be found on p 237.

168 Crepidodera minuta, Jacoby

Crepidodera minuta, Jac, Proc Zool Soc Lond. 1887, p 90.

Entirely brownish-yellow, antennæ, elytra, and legs paler;

eyes black

Head broad, impunctate, frontal elevations distinct though not very prominent. Antennæ about two-thirds the length of the body; first segment long and thickened, second equally thickened



hig 84 - Crepidodera minuta, Jac

but shorter, third, fourth, fifth and sixth thinner and almost equal in length, the seventh to the eleventh are thicker and equal in length, the last pointed *Prothorax* slightly broader than long, somewhat narrowed at the hind angles, anterior and posterior margins more or less straight, all the angles rounded, the edges of the sides serrated; surface convex and deeply and closely punctate, antebasal impression moderately deep, almost as broad as the basal margin and not terminated on each side by a longitudinal impressed line (the absence of the longitudinal impressed lines is unusual in this genus) Scutellum small, broadly triangular, smooth and impunctate Elytra somewhat broader at

base than prothorax, parallel-sided, narrowing towards the apex, with the humeri prominent, punctate-striate, each elytron having eleven rows of large deep punctures, the rows placed very close to each other Underside the distance from the mouth-parts to the front edge of the prosternum is considerable, the prosternum is rather narrow between the prominent anterior cover, anterior coval cavities closed behind, mesosternum somewhat broad and punctate, metasternum much broader than long, with sides somewhat coarsely punctate, first abdominal sternite long, femora of all the legs equally thickened; the tibic not channelled, tarsi slender, claws appendiculate

Length, 12 mm

CEXLOX Dikoya, 3800-4200 ft, 21 1-7 m 1882 (G Lewis)

Type in the British Museum This species is included in

Crepidode a with some reserve

169 Crepidodera obscurofasciata, Jacoby

Crepidodera obscurofasciata, Jac, Ann Mus Civ Genova, xxxii, 1892, p 933

Fulvous; eletra with the sutural and lateral margins obscure fuscous

Head impunctate, shining, frontal elevations in the shape of narrow transverse ridges, carrier indistrict. Antenna scarcely extending to half the length of the elytra, second segment thickened, third and following segments thinner but not longer than second Prothorax twice as broad as long, rather convex, sides straight at the base, rounded before the middle, the anterior angles slightly thickened but not produced, surface extremely finely punctate, basal sulcus rather shallow, punctate like the rest of the surface and bounded at either side by a longitudinal depression Elytra gradually narrowed behind, finely but distinctly punctate-striate, the interstices flat and impressed each with a single row of minute punctures Underside prosternum narrow, anterior coxal cavities closed

Length, 21 mm BURMA Bhamo

Type in the Genoa Museum

I have not seen the insect The above description is taken from Jacoby's original description

170 Crepidodera orientalis, Jacoby.

Crepidodera orientalis, Jac, Ann Mus Civ Genova, XXXII, 1892, p 938

Parallel-sided Head, thorax, the five basal segments of the antennes, and the anterior legs fulvous, elytra metallic-blue; breast, abdomen, hind legs and the six apical segments of the antennes, black

Head impunctate; eyes large; frontal elevations obsolete and contiguous with the carina. Antennæ extending beyond halt the length of the elytra, second segment thickened but scarcely shorter than third, terminal segments slightly thickened Prothorar twice as broad as long, sides alightly rounded before the middle, angles rather obtuse, surface transversely convex, impunctate, base with a deep transverse sulcus, which is bounded at either side by a perpendicular groove Elytra subcylindrical, closely and rather strongly punctate-striate, interstices finely and obsoletely wrinkled. Underside anterior coxal cavities closed

Length, 23 mm

BURMA Karen Mts. (Fea). Type in the Genoa Museum

I have not seen this species, which Jacoby states that he described from a unique example.

171 Crepidodera nigripennis, Motschulsky.

Ochions nigripennis, Motsch., Bull Soc Nat Mosc xxxix, 1866, part 1, no 2, p 418

In the form of the body it resembles Ochrosis salicariæ, Payk * (this insect occurs in the temperate regions of Europe), but it is smaller and with the elytra black. It is oblong-ovate, convex, and shining brown, the antennæ at the apex, the elytra, and the ventral surface of the body, black. The pronotum is transverse and smooth. The elytra are broader than the prothorax and three times longer, subovate and punctate-striate

Length, 11 mm.

CEYLON: Nuwara Eliya Mts , 8000 ft.

I have not seen the type, and the above description is a translation from the original Latin diagnosis

Crepidodera affinis, Motschulsky.

Crepidodera affinis, Motsch., Bull Soc Nat Mosc. xxiv, 1851, part 1, no. 2, p 665

This insect was described by Motschulsky in the following words "Also one species which resembles Or transversa, Marsh., but a little shorter 'O transversa is a European species, and is an entirely brown insect. The specimen which Motschulsky called affines belonged to the East India Company, some of whose collections are in the British Museum But C affines cannot be traced Under the circumstances the name is omitted from the key and must be, to all intents, ignored

^{* =} Lythraria salicaria, Payk

Genus ASUTOSHA *, gen. nov.

GENOTYPE, Asutosha divarna, sp. nov

Body elongate-oblong Head narrower than the prothorax, with eyes strongly convex Antenna situated close together with a deep furrow between them, and in length equal to more than three-quarters of the body second and third segments very small. the latter being slightly longer than the former, while the fourth segment is the longest Prothorax quadrate or slightly broader than long, very slightly narrowed behind; anterior and posterior angles produced, the apex of each bearing a fine hair, surface convex in front and depressed on either side of the longitudinal middle line, the depressions containing a few punctures. Scutellum elongate, triangular, with npex sharply pointed Eligina much broader than the base of the prothorax, with humerus convex, surface regularly punctate-structe, and lateral margins slightly Underside front coxe exserted and almost concavely explanate contiguous, thus making the prosternum very narrow, the coxal cavities being closed behind; elytral epipleura broader at the base, and continuing almost to the upex, legs rather long; posterior femora only moderately thickened, posterior tibia perfectly cvlindrical, without channels and unarmed at the apex, posterior tarsal segments of normal structure; claws appendiculate

Range Burma

172. Asutosha divarna †, sp nov

Body elongate-oblong. Colour of upper aide dark brown to black, a large basal patch occupying nearly half of either elytron and a smaller apical patch, yellow, underside pitch-brown, some parts of the legs being darker than others. The large basal vellow patch on either elytron covers the humerus, reaches the basal margin, and, curving inwaids, approaches the suture without actually attaining it; the yellow patch at the apex covers a small area and reaches the outer margin but not the suture. Of the two examples before me one is shining and the other opaque

Head impunctate, with vertex convex and depressed in front, bases of the antennæ closely contiguous, clypeus convex. Antennæ long, slender, not thickened towards the apex, the three basal segments shining, the rest pubescent; basal segment elongate, club-shaped, second small, rounded, third almost equal to, or very slightly longer than, second, fourth very slightly longer than fifth, the latter and the sixth and seventh almost equal in length, the eighth, ninth, tenth, and eleventh similarly equal, the last truncate on the outer side and pointed. Mouth-parts exserted; labrum broad, narrow in front penultimate segment of maxillary palpi

^{*} Sanskrit, "easily pleased," a name of Siva † The Sanskrit equivalent of Latin bicolor

thickened, apical segment minute, conical, pointed. Prothorax quadrate or slightly broader than long, narrow behind, anterior and posterior margins almost straight, lateral margins straight, their edge gently undulated, the anterior lateral angles are slightly expanded and each bears a fine seta, the posterior angles are slightly produced, each similarly bearing a fine seta, surface convex in front, impunctate, each side depressed, the depressions containing a few scattered coarse punctures Scutellum triangular with the three angles sharp; surface impunctate Elutra broader

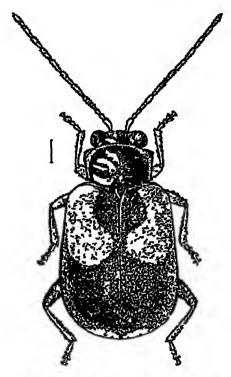


Fig 85 -Asutosha divarna, Maulik

at the base than the prothorax each elytron has (1) a short scutellar row, (2) nine regular rows, of which the sixth, seventh, and eighth are closer together than the rest and arise below the humeral area, (3) an extreme marginal row of which the punctures are deeper and placed in the concave expansion of the lateral margin, the rows converge towards the apex, interstices smooth and flat, humer impunctate Undernde impunctate. smooth, shining, sparsely covered with hairs

Length, 51 mm

BURMA Ruby Mines (Doherty)

Type in the British Museum Described from two specimens

Genus GOPALA *. gen nov

GENOTYPE, Gopala pita, sp nov

Body elongate Head broad, mouth-parts exserted, penultimate segment of maxillary palpi incressate, apical segment small. conical, and pointed, eyes convex, antennæ close together at the base, interantennal space narrow, with a ridge which is met by a deep longitudinal impression, vertex not very convex Antenna reaching a little distance beyond the middle of the elytra, second segment very small, third almost equal in length to the fourth and double the length of the second Prothoras nurrower than the base of the elvtra, quadrate or only very slightly broader than long, somewhat narrowed behind, anterior angles rounded, posterior obtuse; in front of the basal margin are two transverse depressions, one on either side of the middle longitudinal line Scutellum triangular with apex rounded Elytra parallel-sided, imperfectly punctate-stripte, with interstices confusedly and finely punctate, the punctures are deeper in the middle than on the basal and apical parts Underside epipleura of elytra broad at the base and considerably reduced behind the middle, anterior coxe prominent, almost contiguous, making the prosternum very nurion, the anterior coxal cavities are really closed behind, although on a superficial examination they may seem to be open, posterior femora only very slightly more inclassate than the other iemora, tibiæ cylindiical, without channels and unarmed at the apex, first segment of the posterior tarm almost equal to the tollowing two segments together, claws appendiculate, the abdominal segments are sparsely covered with hair, and on the last there are two elevated areas, each containing a deep longitudinal ım pression

Range Assam (Manipui).

173 Gopala pita,* sp nov.

Pitch-black, with two yellow patches on each elytron, namely a broad, transverse, median band and a smaller apical patch, the transverse median band attains neither the suture noi the lateral

margin

Head with vertex not very convex, impunctate, interantennal carinæ expanded behind Antennæ with the two basal segments smooth and hairless, the rest being covered with fine brownish pubescence, first segment long and club-shaped, second small and rounded, third and fourth almost equal, fifth slightly shorter than fourth and almost equal to each of the six following segments Prothorux quadrate or very slightly broader than long, slightly narrowed behind, with anterior angles rounded and posterior obtuse, each of them bearing a fine seta, surface convex in front,

^{*} Sanskrit, meaning "cowherd," a name of Krishna † Sanskrit, "yellow."

impunctate, with two transverse, rather deep impressions, one on either side of the longitudinal middle line; basal edge slightly sinuate, front edge straight. Scutellum triangular, with apex rounded and surface impunctate Elytra much broader at base than prothorax; humeri strongly convex and impunctate, behind the scutellum is a shallow depression on the suture; the punctures on the yellow areas are much more pronounced than those on the

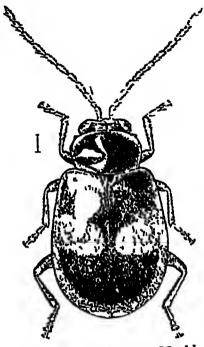


Fig 86 - Gopala pita, Maulik

black portions, the tendency to form rows, though very imperfect, is distinctly recognisable, and the punctures are of more than one kind, some being stronger than others Underside impunctate, sparsely covered with hairs, more on the tibiæ and the abduminal sternites.

Length, 4 mm

Assam Manipur (Doherty)

Described from one example Type in the British Museum.

Genus GRIVA*, gen. nov

Genotife, Pseudodera cyanipennis, Jacoby.

Body clongate. Head narrower than prothorar mui 1-parts exserted, interocular space rough, trontal elevators in the extense between the bases of the antennæ pronounced Ant-næ short

^{*} Sanskrit, "neck."

extending to the base of the prothorax, with the six apical segments distinctly thickened. Prothorax apparently quadrate, but actually about one millimetre broader than long; the surface is extremely convex in front, while the transverse depression in front of the base is so shallow that in some aspects it can be hardly recognised; the transverse depression is bounded on either side by a deeply impressed short longitudinal line, anterior lateral angles rounded, the posterior angles being also more or less rounded; base gently sinuate Scutellum triangular and insignificant Elytra hardly broader at base than prothorax; the surface is smooth, flat and punctate-striate, the punctures being strong, but the rows not very regular. Underside prosternum more or less broad with apex rounded, anterior coxal cavities closed behind, posterior femora strongly incrassate, all the tibia are cylindrical, with channels and apical spurs, tarsi with the claw-segment long, claws divaricate and appendiculate

Range. India
This genus differs from the next following genus, Pseudodera,
in the form of the antennes, the shallowness of the transverse
impression before the base of the prothorax, the fact that the
elytia are hardly broader at the base than the prothorax, and
the paitial irregularity of the seriate punctures on the elytra

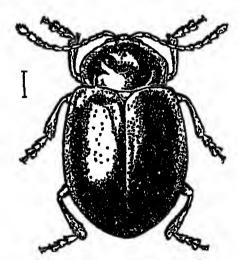


Fig 87 - Griva суаптрения, Лас

174 Griva cyanipennis, Jacoby

Pseudodera cyanipennis, Jac, Mem Soc Ent Belg vii, 1900, p 122

Body elongate, convex Colour of head and underside blush-black, breast and legs dark blue; abdomen more or less fulvous at the apex, antenna black, with the basal segments fulvous at their apices, prothorax dark chestnut-brown, with the base

slightly stained with piceous, elytra metallic-blue, scutelliuu black

Head with vertex impunctate, frontal tubercles small, interantennal carma raised Antennæ rather short, extending to the base of the elytra only, third segment somewhat longer than second and almost equal to fourth, fifth slightly longer than fourth; the six terininal segments thickened and pubescent Prothorax about one-half a millimetre broader than long, very convex, sides straight at the base, rounded in front, base with a very shallow transverse depression, bounded at either side by a deep, perpendicularly impressed, line; basal portion deeply but not closely nunctate, middle of the upper surface with a broad longitudinal band of strong punctures, which does not reach the front margin Scutellum broadly triangular, small Elytia rather strongly punctate-structe, the rows somewhat arregular and closely placed near the suture, more regularly so at the sides, where a tendency to form double rows (like those found in the genus Pseudodera) can be recognised, intervals confusedly punctate sparsely covered with fine hairs, more thickly so on the abdominal stermites

Length, 6 mm
BENGAL Mandar
Type in the British Museum

Genus PSEUDODERA, Baly

Pseudodera, Baly, Journ of Entomology, 1, 1862, p 200

GENOTYPE, Pseudodera xanthospila, Baly (Northern China)

Body elongate, parallel-sided Head narrower than protholax. more or less constructed in front, with the mouth-parts exserted Antenna nearly as long as the body, with all the segments of almost the same thickness, the third being double the length of the second, interantennal elevations pronounced, with a deep impression between them Eyes comparatively small, situated each on an elevated area Prothoras broader than long, anterior margin almost straight, with the angles acute, posterior margin also almost straight, with the angles almost right angles, lateral maigins rounded, surface convex, but in front of the basal margin is a transverse impression, which varies in length and depth, but is relatively deep, on each side of this impression is a short longitudin il impressed line, which also varies in like manner Scutellum broadly triangular, with apex rounded Elytra much broader at base than prothorax, surface smooth and flat, with eleven longitudinal rows of punctures, comprising a short scutellar row, a single sutural row followed by four pairs and an extreme marginal row Underside anterior coxal cavities closed behind. posterior femora moderately incrassate, all the tibiæ more or less cylindrical, without channels or spurs, tarsi with first segment

triangular, second less so, third broad and bilobed, the fourth or claw-segment is long and has two appendiculate and divaricate claws

Range China, Japan, India

Key to the Species

Head finely and sparsely punctate Head impunctate P orientalis, Bali, p 244. P. bifasciata, Jac, p 245

175 Pseudodera orientalis, Baly.

Pseudoder a orientalis, Baly, Trans Ent Soc Lond 1877, p 286

Body elongate and parallel-sided. Colour shining pitch-brown, antennæ black, legs obscure piceous, abdominal sternites reddishbrown, a broad transverse band across the elytra vellow-brown

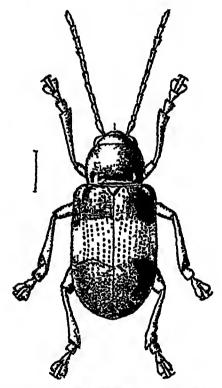


Fig 88 -Peeudodera orientalis, Baly

Head · vertex smooth, convex, very finely and sparsely punctate and separated from the front (including the eves) by a deep transverse impression, eyes convex and hemispherical, there are two parallel carine between the antenne, expanding into the frontal elevations immediately above and enclosing a deep channel between

Antennæ long, slender, sparsely han y, passing considerably beyond the middle of the body, first segment long, club-shaped, second small, rounded, third, fourth, and fifth almost equal to each other, from the sixth onwards the segments become slightly shorter and opaque Prothoras somewhat broader than long, but appearing as though quadrate, slightly narrowed at the base and broadening about the middle, where the sides are rounded, front and basal margins almost straight, anterior angles acute. posterior obtuse, surface convex, smooth and impunctate, at the base, within the hind angle on either side, is a very deep, short, longitudinal impression, and lying transversely along the middle between the two longitudinal impressions is a very deep depression, which contains two large pits and deeply impressed punctures, some of which latter coalesce Scutellum broad ovate, smooth and impunctate Elytra broader at base than prothorax, with humen elevated, convex, and impunctate, each elytron has a scutellar row of a few widely separated punctures and ten more regular rows. distributed as follows first a single sutural row, then eight rows, more or less arranged in four pairs, and, lastly, a row along the extreme margin, interstices flat, the third and fifth, counting from the suture, slightly broader, there are a few stray punctures on the interstices, and the rows converge towards the apex Underside thinly covered with bristly hairs, claws appendiculate

Length, 9½ mm, breadth, 4 mm

BENGAL

Type in the British Museum.

176 Pseudodera bifasciata, Jacoby

Pseudodera bifasciata, Jac, Ann Mus. Civ Genova, xxvii, 1889, p 200

Body elongate, parallel-sided. Colour brown; head and antenuæ darker brown, the latter sometimes piceous, elytra black at the base, with a broad pale brown band, occupying the middle and extending to the sides, and an apical black band, which is broader than the basal black band (sometimes the elytra are entirely

brown), underside pale brown

Head impunctate, frontal elevations very strongly developed, divided by a longitudinal impression. Antennæ long and thin, extending to the apex of the elvtra; the third and tollowing segments curved, the apex of each being strongly thickened. Prothorax subquadrate, broader than long, sides strongly rounded at the middle; surface somewhat convex, impunctate, the antebasal impression deep and bounded on each side by an equalit deep longitudinal impression, these longitudinal impressions being strongly punctate. Scatellum broad, ovate. Elytia finely punctate-striate, the longitudinal lows being arranged in pairs.

The entirely fulvous specimens can be differentiated by their thin antennes from the genotype, P xanthospila, which they

otherwise resemble.

Length, 10-111 mm

TENASSERIM Mount Mulai-yit [Mooleyit], iv 1857 (L Fea)
Type in the Genou Museum I have not seen the type of this
species

Genus XUTHEA, Baly.

Kuthea, Baly, Ann & Mag Nat Hist (3) xvi, 1865, p 248

GENOTYPE, Xuthea orientalis, Baly.

Body elongate-ovate Head exserted, frontal elevations and carinæ present, antennæ long and slender, passing a little distance beyond the middle of the body, eves strongly convex Prothorax more or less nearly quadrate, slightly broader than long, anterior and posterior angles furnished each with a fine seta, in front of the basal margin there is a transverse depression, terminated on each side by a longitudinal line Scatellum small, nearly triangular, with apex broadly rounded Elytra broader at base than prothorax, the humerus is raised and convex, and between it and the scatellum there is also a convex portion, surface of the elytra regularly punctate-striate. Underside anterior coxal cavities closed behind, all the tibiæ armed at the apex with an acute spine, hind femora fairly thickened, claws appendiculate

In the male the first segments of all the tars are dilated

Range India

key to the Species

Colour dull blue, sometimes mixed with green of pure metallic-blue, these and tais not disjunctly brown, pronotum, seen under a hand-lens, distinctly punctate, with a mixture of course and fine punctures

Colour shining green, or sometimes with a bronze tange, tabasend tarm distinctly brown, pronotum, seen under a high power, very finely punctate or

cometimes appearing impunctate

[p 246 X orientalis, Balv,

Ip 249 X. metallica, Jac,

177 Xuthea orientalis, Baly

Nuthea micutalis, Baly. Ann & Mag Nat Hist (3) xvi, 1865, p 249 Duvivier, Ann Soc Ent Belg xxxi, 1892, p 429

Colour dull blue, sometimes with a mixture of green or pure metallic blue, the four basal segments of the antennæ, the labium in part, and palpi, yellow-brown, the seven apical segments of the antennæ piceous, the tibue and tarsi, their points of articulation in particular, much tinged with brown

Head with vertex convex, impunctate with the exception of a few large punctures in front, where it is somewhat wrinkled, and separated from the face by a sinuous impression running obliquely on either side to the apices of the carine, the whole face is covered with longish hairs, interocular space rugose, the carina moderately

elevated, not very broad Antennæ with first segment long and club-shaped, second also club-shaped but thinner than first and somewhat shorter than third, fourth almost equal in length to the third, but shorter than the following, fifth, sixth, and seventh almost equal in length, eighth shorter than seventh or pinth, the last three almost equal in length. *Prothorax* subquadrate, slightly broader than long, lateral maigins almost straight but somewhat convex at about the middle, anterior margin almost straight posterior widely arched, anterior angles slightly expanded, posterior

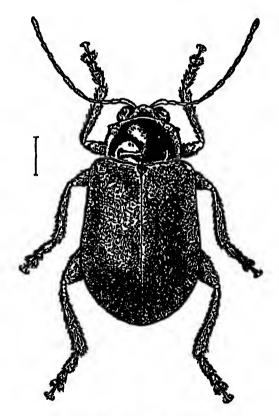


Fig 89 -- Xuthea orientalis, Baly, Q

angles obtuse; surface convex and entirely covered with a mixture of coarser and finer punctures, the density of which varies considerably, there is a transvere depression bounded on each side by a longitudinal line Scutellum slightly depressed in the middle, impunctate Elytra broader at base than prothorax, on each elytron there are eleven very regularly arranged longitudinal rows, including a long scutellar row, gradually vanishing beyond the middle, and an extreme marginal row, interstices smooth and flat; humerus prominently convex, and internal to it there is also a

convex area. Underside moderately shining, covered with longish

adpressed hairs

Usually, in the male the first segment of all the tars is dilated, and the elytra are shining, in the temale the first segment of all the tars is normal and the elytra are dull. But all the examples from Assam and Manipur, twelve in number, are blue with a purplish sheen, and shining, and this entirely shiny form does not have the first segment of the tarsi dilated, as do the male examples from the Darjeeling District

Length, 61-81 mm.

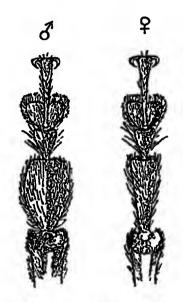


Fig 90 - Xuthea orientalis, Baly, front tarsus of male and female

SIKKIM Gopaldhara, Rungbong Valley (H Stevens), Darjeeling (ex coll F. Moore, Brit Mus.), Namsoo, 2100 ft., 27 v 1918 (H Stevens), Pashok, 4000 ft., 26 v-14 vi 1916 (F H. Gravely); Siliguri, 18-20 vii 1907 (Indian Museum); Kurseong, 4700-5000 ft., 20 vi 1910 (Annandale), Lebong, 6000-6600 ft., 13. vi. 1914 (F H. Gravely), Ghumti, 4000 ft., vii 1911 (F H Gravely). UNITED PROVINCES Almora, Kumaon, common in rains on Gerardina and Urtica, Naini Tal; Bhawali, 23. vii 1921 (these data all based on material collected by H. G. Champion) Assam Manipur (Doherty); Khasi Hills Burma Ruby Mines, 5500-7500 ft

Type in the British Museum, its locality-label bearing no data

beyond "India'

XUTHEA 249

178 Xuthea metallica, Jacoby.

Pseudoder a metalhoa, Jac, Ann. Soc Ent. Belg xl. 1896, p 267

Body elongate and parallel-sided Colour metallic-green, antennæ, tibiæ, and tarsi blown, labrum black, margined with brown; underside more coppery in colour, but with a less metallic sheen

Head with vertex generally impunctate, except for a few scattered punctures in front and some more near the base in certain examples, there is a deep oblique sinuous impression at each side above the base of the antenna, frontal tubercles rather small, triangular, interantennal carina raised and long, clypeus rugose, labrum impressed with a row of deep punctures extending beyond the middle of the elytra, first segment thickened and club-shaped, second half the length of third, fourth nearly as long as the preceding, fifth longer, sixth and seventh each slightly shorter than fifth but equal to each other, eighth, ninth, and tenth almost equal, eleventh slightly longer, the six apical segments slightly thickened, the relative lengths of the segments vary to a certain extent in the sexes Prothorax somewhat broader than long (not twice as broad as long, as Jacoby enioneously states), sides very slightly rounded, very narrowly margined, anterior lateral angles somewhat expanded and posterior angles pointedly produced, the ante-basal transverse depression, which is bounded on each side by a perpendicular impression, is much deeper than in X orientalis Scutellum triangular, apex rounded, surface convex and impunctate. Eluis a broader at base than prothora, at the base, internal to the prominent humerus, is a distinctly convex part, surface regularly punctate-structe, each elytron having eleven longitudinal rows of punctures, including a scutellar and an extreme marginal row, the senate punctures themselves become rather obsolete near the apex, which is subtruncate intervals smooth Underside all the tibize with a little spine the the apex; first segment of posterior tarsi as long as the two following segments together, claws appendiculate

As in X or centalis, the males have the first segment of the tarsi

dılated

Length, 6-7 mm

Madras Madura, Nilgiri Hills (G F Hampson, H. L Andrewes), Octacamund (Champion Coll, ex Tomlin). The example from Octacamund has bronzy reflections and the pronotal punctures are extremely fine

Type in the British Museum

Genus AMPHIMELA Chapus

Amphimela, Chap, Gen Col xi, 1875, p 34 Xanthocycla, Baly, Tians Ent Soc Lond 1875, p 29.

CENOTYPE, Amphimela mouhott, Chapus (Indo-China)

This genus was founded by Chapuis for the reception of an insect from Laos, Indo-China. In the same year Baly described a species which he called *Xanthocycla chapuisu* from the same locality. It has been determined that these two species are identical. Chapuis regarded the insect as remarkable because the antennee are inserted close to the inner edge of the eyes and are separated by the whole breadth of the forehead; this condition is unusual among Halmoine, in which the autennee are normally approximated. But the land femora in this genus are considerably

thickened, which is characteristic of HALTIOINE

Body oval, strongly convex viewed sideways the highest point of the convexity is just behind the scutellum, from this point the outline slopes suddenly to the front, and gradually towards the posterior, end. Head broad; interocular space flat, without any ridges, elevations, or carinæ Antennæ eleven-segmented, elender, scarcely half the length of the body Eves rather large and Prothorax much broader than long, posterior margin bisinuate on either side of the middle (2 c, with four sinuations altogether), and with a median lobe which is slightly produced backwards, front margin widely emarginate, fitting to the width Scutellum sharply triangular Elytra hardly broader ot the head at hase than prothorax, very regularly punctate-striate, with a certain amount of space between the rows, besides the series of punctures the whole surface is very minutely and closely granulatepunctate Underside anterior coxal cavities closed, prosternum obling, with the anterior part broadly dilated, mesosternum almost hidden in the front portion of the metasternum, which hes between the mesocove and is produced behind, reaching between the metacoxe, posterior femora very strongly dilated, posterior tibiæ short, slightly dilated townids the apex, where they are armed with a spine, and channelled on their dorsal side, claws appendiculate

Range India, Buimu, Indo-China, Australia

179 Amphimela mouhoti, Chapuis

Amphimela mouhoti Chap, Gen Col vi, 1875, p 36, Jacoby, Ann Mus Civ Genova, vivii, 1889, p 204 Xanthooyela chaputsii, Baly Trans Ent Soc Lond 1875, p 29

Body ovate, narrowed behind, strongly convex Colour yellowbrown

Head 1 ather broad, short, vertex, interocular and interantennal areas entirely flat without carine or sutures, and closely punctate, ever not very convex. Antennæ scarcely half the length of the

body, rather slender, the four basal segments more slender, smooth, hairless, the seven apical segments more thickened, sparsely covered with bustly haus, first segment long and club-shaped, second slightly thicker than third, which is almost equal to fourth. fifth to eleventh almost equal Prothorax about one millimetre broader than long, the greatest length being along the middle. basal margin oblique and bisinuate on either side, the median lobe distinctly produced, anterior angles curved slightly outwards, obtuse at the apex, posterior angles acute, each of the four angles bearing a fine seta; sides convexly rounded; surface transversely convex, closely and rather coarsely, but not deeply, punctate, faintly rugulose, interspaces granulose Scutellum small, triangular, and with a few punctures Elytra hardly broader at base than prothorax, strongly punctate-structe, the interspaces and

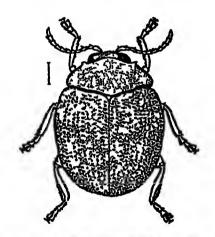


Fig 91 - Amphimela mouhoti, Chapuis

whole of the surface finely but distinctly punctate, the interstatual punctures being much finer, and giving the surface a granulose appearance, on each elytron there are eleven longitudinal rows of punctures, including a scutellar row, nine principal rows. and an extreme marginal low, the rows converge towards the apex; counting the scutellar low as the first, the eighth and minth rows commence from a point immediately behind the slightly convex humerus, the interspace between the tenth and the extreme marginal row is much wider than the other interspaces at the base, but narrows town ds the apex Underside more or less sparsely covered with fine hairs, and closely and strongly punctate.

Length, 5 mm
Burma Bhamo (Fea) Tenasserin (Doherty) Indo-China

Laos (type-locality), Cambodia JAVA

The location of the type of Amplumela mouhots is unknown to me

Type of Xanthocycla chapusu in the British Museum On the label attached to this type Balv wrote "Laos," but in the published description he wrote "India," probably under the misapprehension that Laos was in India

Genus CLITEA, Baly

Cliten, Baly, Trans Ent Suc Lond 1877, p 287

GENOTYPE, Chiea picta, Baly

Body elongate-ovate, oblung and, compared to that of Amphimela, not strongly convex Head broad, without frontal tubercles, interantennal space broad, eyes distant, antenna short Prothorax convex, its entire surface covered with larger and much smaller punctures, sides rounded and narrowly margined, at the anterior angles the margin is expanded and the edge of the expanded portion may be convex or nearly straight in outline, basal margin unuate, slightly produced in the middle Scutellum sharply triangular and impunctate Elytra hardly broader at base than prothorax, parallel-sided, punctate-strute, besides bearing the rows of punctures the whole surface is closely covered with minute punctures (granulate), interstices generally flat, in some cases some of them may be slightly convex, and the distances between the lows of punctures also differ Underside abdominal sternites minutely and sparsely punctate; anterior coxal cavities closed behind, posterior temora much thickened; claws appeardiculate

Range India, Burma

Key to the Species

Insect red-brown with black patches Insect greenish-æneous on the upper side and yellow-brown beneath C maica, Jac, p 252

180. Clitea picta, Baly

Body oblong-ovate Colour reddish-brown, with the following black patches. a large patch covering the whole of the pronotum except the sides; continuous with the pronotal patch there is a large patch on the basal part of the elytra, covering the humeral callus, whence its boundary extends obliquely across the disc, besides this, on each elytron, there are a broad post-median and an apical patch; the thickened posterior femora are black

Head broad, densely punctate. Antennæ short, passing a little distance beyond the base of the pronotum, first segment clubshaped, second thicker and shorter than third, which is slender and equal to the fourth in length, from the fifth enwards the

77.2

segmente descrite larger and phisère. Problema decader aban long, namered in facta el es slightly remolèd, court margin smalgit, base sinnate, enterior su ples expanded into a small bellow, posierint simpet right angles: surbase courex, very densely



Fig. 92.—Cides gides. Bely: showing po ris of intersion of enterme close to inner r argins of eyes

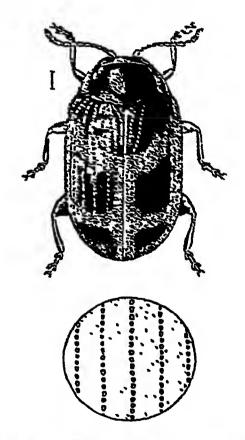


Fig 93 —Clitea picta, Buly, whole insect, and part of the surface of the slytra, enlarged to show the punctuation.

punctate with larger and much finer punctures, which are indiscriminately mixed.

Scatellium small, triangular, smooth, and impunctate. Elytra hardly broader at base than prothorax, humerus convex and very finely punctate; each elytron has a

long scutellar 10w of punctures, and ten other regular stræ of deeply impressed punctures, the interspaces between the rows are almost of equal width, except that between the eighth and ninth 10ws, which is slightly narrower, and that between the ninth and tenth (i.e., along the extreme margin), which is the breadest and is slightly raised the interspaces on the inner half of the elytra are flat, entire surface closely covered with very fine punctures in addition to the seriate punctures. Underside sparsely punctate, each puncture bearing a silvery hair

Length, 4½ mm, breadth, 2½ mm

BENGAL Mandan BOMBAY Kanara (Andrewes). BURMA Bhamo (Fen), Toungoo.

Type in the British Museum

181 Clitea indica, Jacoby

Mantura indica, Jac , Ann Soc Ent Belg. xl, 1896, p 269

Body elongate and parallel-sided Upper side greenish-seneous, antennee, Librum, clypeus, and underside fulyous, in parts of the

underside the colour is almost pitchy

Head closely punctate with larger and more minute punctures, frontal tubercles and interantennal carina absent widely separated, inserted near the lower part of the eyes, extending slightly beyond the base of the prothorax, basal segment elongate and club-shaped, second slightly thicker and almost equal to third, fourth equal to third, the following segments slightly longer, thicker, and more bristly, the surface on either side between the eye and the labrum is channelled to receive the basal segment of the anteuna. Protho ax somewhat broader than long, widened at the middle, narrowed in front, sides slightly rounded, narrowly margined, anterior angles produced into a slightly truncate tooth, posterior angles rounded, hind margin broadly rounded and slightly produced in the middle, surface convex, closely impressed with larger round and numerous smaller punctures; the larger nunctures are more numerous at the sides than in the middle Scutellum triangular, with surface Elytra as broad at base as prothorax, regularly and impunctate strongly punctate-striate, each elytron with eleven rows of punctures, including a scutellar and an extreme marginal row, interstices very closely and finely punctate Underside abdominal sternites finely punctate

Length, 32 mm, breadth, 2 inm

BOMBAY Belgnum

Type in the British Museum

Kamala 255

Genus KAMALA*, gen nov

Genored, Hypnophila violacerpennis, Jacoby

This genus is proposed for the reception of four Ceylonese insects, which were placed in Hypnophila by Jacoby The genus Humophila was erected by Foudras in 1860 (Mulsant, Col France, Altisides, p. 282) for a European species which he called currens. Foudras separated the genus from Apteropeda, Cherr, I have no means of examining his genotype Chapus (Gen. Col xi, 1875, p. 129) places Hypnophila in his group Majorhilites, which is characterized, according to him, by having the anterior coxal cavities open behind In the four species of Kamala from Ceylon described here the anterior coxal cavities are closed behind Accepting Chapuis's view of this part of the insect's structure in Hypnophila. I have no other alternative but to elect a new genus for the Ceylonese beetles Geographical considerations, moreover, lend additional weight to the view which I have taken describing these insects Jacoby is silent about the coxal cavities, neither does he say if he has seen Foudias's genotype of Hypno-

phila

Very small, spheroidal insects, narrowed in front and more so All are apterous. Hend broad, vertex not very convex, frontal tubercles and carina absent, interantennal space rather Antenna very short, reaching about to the base of the pronotum, the five basal segments always coloured and constructed differently from the remaining segments, which form a dilated club. first segment usually long and thickened at its npex, second generally thicker than third, fourth, fifth, and sixth shorter, the latter generally forming the base of the club; the segments composing the latter are gradually dilated, somewhat narrowing at Prothorar always broader than long, sides somewhat lounded, the four angles generally more or less rounded, surface convex and smooth, with sides sloping down, while in some cases there is on each side, perpendicular to the base, a small vertical notch, which has to be carefully looked for Scutellum always Elytra scarcely, or at most slightly, broader at base insignificant than prothorax, widening immediately behind the base and attaining their greatest width about the middle, then marrowing considerably towards the apex, surface extremely convex and punctate-striate. Underside prosternum comparatively broad and often marked with small pits; anterior coxal cavities closed behind, abdominal sternites generally smooth, convex along the longitudinal middle line; posterioi femora and tibiæ very well developed, the latter dilated and flattened towards the apex. generally bearing a row of fine spiniles on the outer edge of the flattened surface and a well-developed spine at the apex, taisi generally prominent, claw-segment long, in the hind taisi the

^{*} A Sanskrit name for the lotus

first segment is as long as the following two together; the claus according to Jacoby me simple, but with careful examination a little projection can be detected beneath at the base

Range Ceylon

indistinct punctures

Key to the Species.

Insect with head, prothorax, and legs redblown, elytra black.

Insect not so coloured

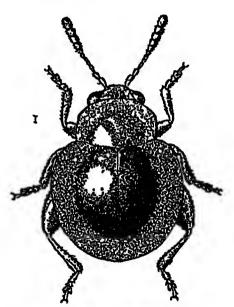
Pronotum with a few fine punctures, elytra
violaceous
Insect not so characterized

Pronotum with fine longitudinal rugosities
Pronotum without rugosities, impunctate
except for a few scattered, extremely fine,

| p 256 |
| R apicipennis, Jac |
| p 257 |
| R violaceipennis, Jac |
| p 258 |
| rugicollis, Jac |
| p 258 |
| p 258

Hypnophila flavipennis, Motsch, which is doubtfully placed in the genus Kamala in this book (p 259), is not included in the above key

K lævicollis, sp n,



big 94 -Kamala apicipeunis, Jac.

182 Kamala apicipennis, Jacoby

Hypnophila apu pennis, Inc., Proc Zool. Soc Lond 1887, p 89.

Body very strongly convex, pointed behind Black, the five basal segments of the antennæ, head, thorax and legs rufous, apex of elytra red-brown, this colour extending partly to the sides, underside red-brown

257

Head broad, vertex not convex, impunctate, interantennal space broad, frontal tubercles and carina absent Antennæ with the six apical segments forming a thickened club; first segment the longest, thickened, second also thicker than third, which is slender. fourth shorter than third, fifth equal to fourth Prothorax bioadei than long, transversely convex, shining, impunctate, the hasal margin with a very short longitudinal impression on either side, which is seen with difficulty, sides nearly straight, anterior angles rounded Soutellum minute, triangular, impunctate. Elutra broader at base than prothorax, subglobose, strongly punctatestrate each elytron having ten rows, including a short scutellar Underside smooth, impunctate, hind tibise longer than the others, tarsi long, the first segment of the hind pair as long as

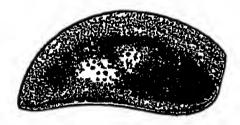


Fig 95.—Kamala aprespennis, Jac, elytron in profile

the following two together, each of the claws has a thickening at the base beneath, and if this be regarded as an appendix then, as remarked above in the description of the genus, the claws cannot be called simple, as was done by Jacoby

Length, 11 mm.
Orkion: Bogawantalawa, 4900-5200 ft, 21. 111-4 1v. 1882 (G Lewis)

Type in the British Museum, a unique example.

183. Kamala violacemennis, Jacoby

Hypnophila molacerpennis, Jac., Proc Zool Soc Lond 1887, p. 88.

Body spheroidal, strongly convex. Black, the five basal segmente of the antenna and the posterior tibia obscure testaceous. scutellum piceous, elytra dark violaceous, underside dark pitchbrown.

Head impunctate, frontal tubercles obsolete Antenua with the last five segments forming a thickened club; the first segment the longest, second thicker than third, which is slender, tourth, fifth, and sixth each shorter and equal. Prothorax broader than long, sides straight, base with a very short longitudinal notch on each side, anterior lateral angles rounded, surface with a very few minute punctures, visible only under a high power. Scutellum small, triangular, with apex rounded, impulctate.

Elytra very strongly convex, narrowed and rather pointed at the apex, each elytron with ten rows of punctures, including a short scutellar row. Underside smooth, shining, impunctate

Length, 12 mm

CEYLON Bogawantalawa, 4900-5200 ft, 21.111-4 1v 1882 (G. Lewis)

Type in the British Museum

184. Kamala rugicollis, Jacoby

Hypnophela sugreolles, Jac , Proc Zool Soc Lond 1887, p. 89

Black, elytra black with a purplish sheen when seen at certain

angles

Head finely rugose. Antennæ constructed similarly to those of K apicipennis. Prothorax extremely convex, sloping down at the sides, broader than long; surface entirely covered with fine longitudinal rugosities, giving it an opaque appearance. on either side there is a small longitudinal indentation situated at the base, and a lateral oblique impression extending close to the lateral margin, the space between these two impressions appearing somewhat thickened, shining and without rugosity Scutellum small, broad, with apex rounded and surface smooth and impunc-Llytra ovate, very convex and pointed at the spex, punctatestriate, the punctures regular, moderater deep, and close together, each elytron having eleven rows, including a short scutellar and au extreme marginal row Underside smooth, shining, implincate, the sternal plates pitted; elytial epipleura broadest at the base and tapening to the aper, posterior femora very strongly incressate, posterior tibiæ straight and aimed at the apex with a long spine, first segment of posterior tarsi nearly as long as the three following segments together, first segment of tront and middle tarsı much broadened

Length, 12 mm

CEYION Bogawantalawa, 4900-5200 it, 21 m-4 n 1882 (G Lewis)

Type in the British Museum

185 Kamala lævicellis, sp nov

Body convex, spheroidal, pointed behind Black above, underside, tibiæ, and tarsi pitch-brown, the basal segments of the

antennæ light brown, the remaining segments black

Head with vertex not convex, impunctate, interocular space flat, smooth, interantennal space lather broad. Antennæ short (as usual in the genus), basal segment the longest, club-shaped, second thicker than third, which is slender, fourth, fifth, and sixth very short, from the sixth to the end the segments form a thickened club. Prothorar broader than long, convex, smooth and impunctate, except for a few scattered, extremely fine,

indistinct punctures; the short vertical notch on either side at the base is absent; sides feebly rounded, lateral angles rounded Scutellum small, triangular with apex rounded, impunctate. Elytra hardly broader at base than prothorax, punctate-striate, each elytron having ten rows, including a short scutellar row. Underside smooth, shining, impunctate.

Length, 11 mm.

CEYLON: Bogawantalawa, 4900-5200 ft, 28 in-12. m 1882 (G. Lews).

Type in the British Museum. Described from one example.

Kamala flavipennis, Motschulsky

Hypnophila flavipennis, Motsch., Bull. Soc. Nat. Mosc. xxxix, 1886, part 1, no 2, p 422

In form resembling Hypn. carross, but a little more obtuse; ovate, convex, shining, black; pronotum almost piceous in front, elytra yellow-brown, distinctly punctate-striate.

Length, 21 mm.; breadth, 11 mm.

CEYLON Nuwara Eliya

There is no possibility of seeing Motschulsky's type, and the above is a translation from the original description in Latin. Probably Motschulsky's phrase "a little more obtuse" refers to the apex of the elytra

This species is here tentatively placed in Kamala In the British Museum there are many specimens which roughly answer

to the above description

Genus NEORTHAEA, nom. nov.

Orthaeu, Jac, Ann Mus Civ Genova, xxvii, 1889, p 201

GENOTIPE, Orthaen viridipennis, Jac

The name Orthaea is preoccupied for a hemipterous insect (see Dallas, List of Hemip. Insects, British Museum Catalogue, part 2, 1852, p 580) Neorthaea is therefore proposed here as

the name of the genus.

Body rounded, very convex, narrowed in front and behind. Head with vertex convex and with a broad longitudinal raised area on either side of which (i.e., above the eye) is a deep furrow, continued to the interocular space, thus forming the front boundary of the raised area previously mentioned, frontal elevations and carina absent. Antennæ short, extending to a little distance beyond the base of the pronotum, somewhat thickened towards the apex, the first segment lies in a channel between the lower edge of the eye and the base of the mandible. Prothorax broader than long, the length along the middle longitudinal line greater than that along the sides, the base somewhat sinuate while on either side, in front of the humerus, is situated a short

notch, perpendicular to the basal margin Scutellum small, trangular Elytra hardly broader at base than prothorax, surface in some species punctate-striate, while in others there is scarcely any trace of seriate arrangement, in the seriately punctate species the first stria commences at a little distance from the suture, while on the surface between the suture and the first longitudinal row the punctures are confused, and in the type-species the whole interstatial surface is closely covered with very minute punctures, humeri prominently convex Underside. epipleura of elytra very broad, concave, and extending to the apex; prosternum distinct, longitudinally channelled, mesosternum extremely short, posterior femora moderately thickened, posterior tibise with a distinct apical spine, first segment of posterior tarsi about equal in length to the following two together; claws appendiculate, anterior coxal cavities closed behind.

Range. India, Burma, Siam, Indo-China

Key to the Species.

Insect brown, with or without a bronzy sheen above
 Insect not brown
 Entirely brown, without bronzy sheen
 Brown or dark brown, with a bronzy sheen above
 First segment of posterior tarsi broad, bilobed
 First segment of posterior tarsi not broad, but elongate
 Elytra metallic-green, head and pronotum red-brown, length 4½ mm

Insect entirely bluish-green, length

3 mm.

2 4 N fulva, Jac, p 260,

N subglobosa, Hope, p 262

N micans, Baly, p 268.

N viridipennis, Jac, p 264

N burmamea, Jac, p 264

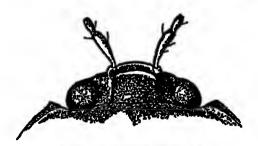


Fig 96 —Neorthaea fulva, Jac Head, showing median elevated longitudinal area

186. Neorthaea fulva, Jacoby

Orthaea fulva, Jac, Ann Soc Ent Belg xlvn, 1903, p 107

Body rounded, narrowed in front and behind, strongly convex Fulvous; the five basal segments of the antennæ also fulvous, the remaining segments brownish-black

Head impunctate, except for one of two stray punctures; vertex convex, deeply and broadly sulcate in front of the eyes; clypeus separated by a transverse channel, impunctate, transverse, rectangular Antennæ short, from the fifth to the last the segments are gradually thickened; first segment the longest and clut shaped, second small, third thinner and longer than second. Prothoraæ transverse, anterior margin nearly straight, base on either side obliquely rounded and with a very small perpendicular notch, which can be seen only under a high power, median part of the base broadly rounded, surface uniformly convex from side to side and minutely punctate, lateral margins nearly straight,

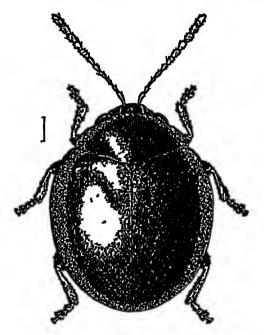


Fig 97 -Neorthaca fulta, Jan

anterior lateral angles strongly pointed Scutellum triangular. with apex rounded and surface impunctate. Elytra broader at base than prothorax, surface punctate-striate, the punctures becoming more regularly senate at a distance from the suture *; the humerus and a longitudinal strip along the lateral margin are impunctate. epipleuia very broad, finely but distinctly punctate in closely approximated irregular rows, sides near the shoulders slightly thickened and impunctate at the base, while along the

^{*} In ig 97, unfortunately, no seriate arrangement of the punctures is indicated. The series are not very regular, and the presence of punctures in the intervals as well strengthens the impression of confused punctuation when the insect is viewed from certain aspects.

lateral margin lies a row of deeper punctures Underside prosternum rather bload, subquadrate

Length, 51 mm.
NILGIRI HILLS:
Type in the British Museum

187. Neorthaea subglobosa, Hope

Cocrinella subglobosa, Hope, in Gray, Zool Mice 1831, p 31

Plagiodera subglobosa, Weise, Coleopt Cat, part 68 (Chiysomelina),
1916, p 186

Shining brown, with a slight bronzy sheen above, underside

rather lighter in colour.

Head with the longitudinally raised area almost impunctate except for a few minute scattered punctures, interantennal space convex, carina absent. Antennæ hardly extending to the middle of the elytra, first segment the longest, club-shaped, second slightly shorter than third, fourth also slightly shorter than third; the following segments more or less nearly equal one to the other, slightly thickened and pubescent. Prothorax broader than long,



Fig 48 —Nearthaza subglobosa, Hope Head, showing median longitudinal elevation on the frons, mandibles not shown

basal margin somewhat sinuate at the middle, sides straighter at the base and rounded towards the apex, anterior lateral angles somewhat produced, posterior angles rounded, slightly greater than a right angle, surface convex from side to side, closely and finely punctate, the punctures being much finer than those on the elytra. Scatellum small, triangular, impunctate Elytra broader than prothorax, confusedly, strongly, and closely punctate, some much finer punctures are visible in the interstices, particularly at the base; humerus convex, impunctate, along the basal part of the lateral margin is a raised impunctate strip Underside abdominal sternites punctate, elytral spipleura transversely wrinkled; first segment of posterior tarsi broad, bilobed

Length, 51 mm
NEPAL (Hardwick Coll.)
Type in the British Museum

Weise referred this species to the genus *Plagiodera* in his catalogue of Chrysomelinæ, as cited above. Galian, when arranging the Haltioinæ in the British Museum, placed it in the genus *Euphitrea*—a conclusion which was incorporated by Bryant in his paper, "Notes on Synonymy in the Phytophaga" (Ann & Mag Nat Hist (9) xii, 1923, p. 143)

188. Neorthaea micans, Baly.

Euphstrea micans, Baly, Trans Ent Soc Lond. 1875, p 28. Euphstrea assamensis, Baly, Oistula Ent. 11, 1879, p 443

Body rounded and convex Shining brown to dark pitchy,

always with a brass; sheen above.

Head with front longitudinally raised and depressed on either side above the eye, the raised part of the surface having a tew fine punctures; trontal elevations and carina obsolete, as is characteristic of the genus, although the interocular space and the broad interantennal space are very uneven. Antennæ scarcely half the length of the body; first segment the longest, club-shaped, second shorter, third slightly but distinctly longer than second; from the fourth the segments are somewhat thicker and almost equal. Prothorax much broader than long, basal margin bisinuate on either side, median lobe of the base obtusely rounded, sides rounded, converging in front, anterior angles acute, posterior nearly obsolete, surface convex from side to side, finely punctate, impressed on either side (just nearer to the middle than the humerus) with a short longitudinal notch on the basal margin Scutellum triangular, impunctate Elytra broader than prothorax. shoulders comparatively prominent, sides rounded and slightly converging to the apex, there is, however, some tendency towards seriate arrangement; surface confusedly, closely, and distinctly punctate, sometimes two faint longitudinal interstices are recognisable, and along the lateral margin, near the base, is an impunctate raised strip, bounded on the inner side by a row of punctures Underside closely and strongly punctate; first segment of posterior tarsi not bload, but elongate.

Length, 5-7 mm. The type of Euphitrea micans (from Sumatia)

measures 6 mm, and that of Eu assamenses 5 mm

Bombay Kanaia (Andrewes) Nilgiri Hills (Andrewes)
Assam. Manipur (Doherty) Burma Karen Hills, v-xii 1868
(L Fea), and 18-21 v 1916 (F. M Mackwood) Tonkin Maison
Mts., iv-v (H Fruhstorfer) Java Sumatra. Borneo.

Types of Euphitrea micans and Eu assamensis both in the British Museum In describing the latter Baly had only a single example

before him.

There are specimens in the British Museum from all the localities given above Three examples from the Karen Hills, 64 mm. long., are very dark brown, with the usual bronzy sheen; the specimens tron Tonkin and Manipul are 6 mm. and 62 mm

long respectively, and of the same very dark colour as those from the Karen Hills In spite of the differences in size and intensity of colouring, the specimens exhibit no structural divergences which cannot be considered as within the range of individual variation.

189 Neorthaes viridipennis, Jacoby.

Orthaea viridipennis, Jac, Ann Mus Civ Genova, xxvii, 1889, p 202.

Elytra metallic-green, head, antennæ, prothorax, scutellum, legs, and underside red-brown, lateral margins of prothorax darker.

Head convex, with vertex punctate, the punctures being finer and sparser towards the bases of the antenna, lateral furrows bounded by an acute 11dge, clypeus broad Antennæ short, extending a little beyond the base of the pronotum, covered (except the two basal segments) with fine hair, first segment long and club-shaped, second equal to, but thicker than, third, fourth as long as third and thicker at its apex than at its base. from the fifth to the eleventh the segments are thicker and about Prothoran broades than long, narrowed in front, basal margin sinuate, sides feebly rounded, their edges sharp, anterior angles prominent, suiface uniformly convex and closely punctate. Scutellum small, triangular, impunctate Elytra convex, surface punctate-striate, the stum closely placed and in some aspects, presenting an appearance of being paned, intenstices closely covered with minute punctures, humer raised, and bearing only the minute, not the larger, punctures, between the suture and the first regular row of punctures is a broad space, narrowing towards the apex, containing traces of a scutellar row and of other rows, thus this space piesents an appearance of a mixture of larger and finer punctures, at least in the example marked "type" in the British Museum, along the lateral margin of either elytron is a longitudinal convex strip, devoid of the larger punctures Underside finely punctate and sparingly pubescent; elytral epiplema transversely wrinkled

Length, 41 nm

TENASSERIM Thagata, 111-1v 1887 (L Fea). Burma Karen

Hills (Doherty)

There is an example marked "type" in the British Museum, and probably another similarly marked in the Genoa Museum

190 Neorthaea burmanica, Jacoby.

Orthaea burmanıca, Jac, Novit Zool. 1, 1894, p. 294

Small, ovate, not so convex as some of the other species Metallic blue-green above, underside black, the four basal segments of the antennæ, labrum, taisi, and generally the points of articulation of the parts of the legs, pitch-brown.

Head with vertex impunciate, except for a few stray, extremely fine, punctures, the deep turrows above the eyes, as well as the other characteristic feutures of the head, are as is usual in the genus Antennæ comparatively long, extending to about the middle of the elytra and sparsely covered with fine hairs, first segment the longest and club-shaped, second almost as long as third, which is more slender, fourth similar to the pieceding; from the fifth to the last the segments are thicker and almost equal. Prothorac broader than long, basal margin sinuate, sides more or less straight, anterior angles thickened, surface convex, sloping down at the sides in front, confusedly punctate Scutellum small, triangular, impunctate Elytea broader at base than prothoiax, punctate-structe, each elytron having eleven rows of punctures, including a scutellar and an extreme marginal row, the punctures in each row being not very regularly placed, humers prominent, impunctate, this species differs from certain of its congeners in not having a confusion of punctures about the suture, as indicated, for instance, in the preceding species Underside punctate, covered with hairs, epipleura broad and transversely wrinkled

Length, 3 mm
BURMA Ruby Mines (Dohe ty)
Type in the British Museum

Genus SPHÆROPLEURA, Jacoby.

Spharoplema, Jac, Proc Zool Soc Lond 1887, p 102

GENOTIPE, Sphæropleura tricostata, Jac

Body rounded, strongly convex, hemispherical. Head broad; antennæ filitorin, slender. Prothorax strongly convex, without depressions Elytra punctate-striate, the striæ not very regular. Underside prosterium nurrow, deeply channelled longitudinally; anterior coxal cavities closed. mesosterium deeply emarginate at the apex, posterior femora strongly incrassate, the tibiæ slender, not channelled on the upper side, first segment of the posterior tarsi as long as the two following segments united; claws appendiculate

Range Ceylon

191. Sphæropleura tricostata, Jacoby

Sphær oplen a trecostata, Jac., Proc Zool Soc Lond. 1887, p 102

Colour of autennæ, tibiæ, and tarsi generally dark brown, but the antennæ may be lighter; underside piceous, head and prothorax black, elytra black or dark brown

Head vertex convex, smooth, and impunctate; frontal tubercles and interantennal carina absent. Antennæ about one-half a millimetre shorter than the length of the body; first segment long and slender, second almost as long as, but thicker than

fourth as long as third, from the fifth onwards each segment is very slightly thickened on the inner side. Protholar strongly convex, broader than long, front margin slightly concave, posterior margin widely rounded, its angles being placed forwards, sides somewhat explanate, more or less oblique, anterior corners drawn forwards to an acute point, each of the anterior and posterior angles bearing a fine seta, "urface smooth and impunctate Scutellum triangular, with surface impunciate. Elytra broader at base than prothorax, humeri convex, punctate-striate,

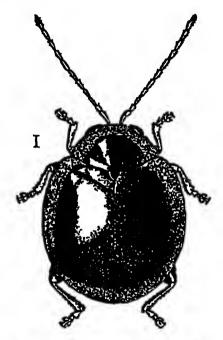


Fig 99 - Sphæropleura tricostata, Jac

the rows closely placed, more regular near the suture than towards the sides, it is not possible to count the number of rows with precision. In the female, on the sloping portion of the elytron towards the apex, there are three short prominent longitudinal costs. Underside. abdominal sternites sparsely punctate and hairy.

Length, 2½ mm.; breadth, 2½ mm, length of antenna, 2 mm. Cerson. Galle, on coast-level, 27. xi-4. xii. 1881 (G. Lewis) Type in the British Museum.

Genus ELYTROPACHYS, Motschulsky.

Elytropachys, Motsch., Bull. Soc. Nat. Mosc xxxix, 1866, part 1, no 2, p. 419.

Perodorus, Jac., Proc. Zool. Soc. London, 1887. p 94

GENOTIPE, Aphthona latissima, Motsch. (Ceylon).

Body ovate, narrowed in front, broadened behind; not strongly convex above as compared with some related genera Head broad; eyes strongly convex. Palpi slender, filiform Antennas filiform, second segment short, third and fourth equal in length. Protherax broader than long, with the surface convex and impunctate. Scutellum triangular. Elytra slightly broader than prothorax at base, with a post-basal shallow depression, the area in front of which is convex; the fine punctures are more or less regularly arranged in rows. Underside: epipleura of the elytra narrowed considerably, but not continued behind the middle; anterior and middle tibix unarmed at the apex; each of the posterior tibix with a small minute spine at the apex; first segment of posterior taxsi as long as the two following together, claws appendiculate; prosternum distinct; anterior coxal cavities closed.

Range. Ceylon.

Motschulsky, in proposing the genus Elytropachys in 1866 made Aphthona latissima, Motsch, the genotype In the Butish Museum there is an example bearing a label in Baly's handwriting, on which Baly states that the specimen was obtained from Motschulsky's collection, through Schaufuss, as an example of Aphthona latissima I therefore take this particular specimen in the British Museum as authentically named by Motschulsky himself. In 1887 Jacoby described a new monotypic genus for a Ceylonese insect and called it Pexodorus, naming the species P ceylonensis. On comparing these examples of Perodorus ceylonensus and Aphthona latusuma. I find that they are identical. Jacoby's Pexodorus must therefore become a synonym of Motschulsky's Elytropachys; while Pexodorus ceylonensis, Jac, falls as a synonym of Elytropachys latissima, Motsch In the Munich Catalogue (Gemminger and Harold), xii, 1876, p 3510, Elytropachys, Motsch, is treated as a synonym of Aphthona, Chevr Motschulsky described the genus Elytropachys as " a Halticid with the characters of Aphthona, with pronotum very broad, and with elytra almost square, and transversely impressed on their anterior part "

No key to the species is given, as I have only seen one species, E latissima, but translations of the brief original descriptions of

four others are added

192 Elytropachys latissima, Motschulsky.

Anhthona latissima, Motsch, Etud Ent vii, 1858, p 106 Elytropachys latissima, Motsch, Bull Soc Nat Mosc xxxix, 1866. part 1, no 2, p 419

Pexodor us ceylonensis, Jac, Proc Zool Soc. London, 1887, p 95

Black, the palpi, the five basal segments of the antenne, the anterior and middle legs, and the posterior tibie, yellowish-brown, the six apical segments of the antennæ fuscous; labrum obscure

Head broader than long, frontal elevations ovate but slightly raised and small, eyes entire and oblong Antenna about twothirds the length of the body, first segment elongate, second small, third and fourth equal, fith slightly shorter, from the sixth to the eleventh the "egments are more or less nearly equal Prothoraa about twice as broad as long (not more than three times, as Jacoby states), posterior margin widely arched, sides narrowly margined, nearly straight, anterior angles somewhat broad and slightly produced, each of the anterior and posterior angles with a single seta, surface strongly convex and entirely im-Scutellum triangular, with apex lounded and surface Elytra distinctly broader at base than prothorax, impunctate widehed behind, each elytron very minutely and closely punctate, the punctures more or less arranged in longitudinal rows, but not regularly enough to allow of the rows being exactly counted Underside smooth, impunctate, sparsely covered with fine hairs, prosternum distinct, but narrow, mesosternum slightly emarginate at its base

Length, 4 mm

CEYLON type-locality; Dikoya, 3800-4200 ft, 6. xii. 1881-

16 1 1882 (G. Lewis)

Type of Aphthona latissima, Motsch, unknown to me, that of Perodorus ceylonensis, Jac, in the British Museum

The following are rather free translations of Motschulsky's original descriptions of four other species, the location of the types of which I do not know E dimediata was originally described in French, and the three which tollow it in Latin -

Elytropachys dimidiata, Motschulsky

Aphthona dimidiata, Motsch, Etud Ent vii, 1858, p 106, id, Bull. Soc Nat Mosc xxxix, 1866, part 1, no. 2, p 420

With the broadened form of the preceding species (E laissima), but of testaceous colour, the posterior half marked with a blackish-brown patch, bordered with testaceous and delimited obliquely in front towards the suture; eyes black, protholax less transverse and more rounded at the sides, posterior femora and

underside testaceous, like the rest of the body, extremity of antennæ brownish

Length, a little more than 2½ mm

CEYLON (Nietner)

Elytropachys viridescens, Motschulsky.

Elytropachys viridescens Motsch., Bull Soc Nat. Mosc xxxix, 1866, part 1, no 2, p 419

In form like *E latissima*, but a little smaller. Shortly subovate, convex, shining, glabrous, greenish-bronze, antennæ and legs yellowish-testaceous, with the apices of the former, the posterior femora, and the underside, black.

Length, a little more than 21 mm.

CEYLON Nuwara Eliya

Elytropachys obscurata, Motschulsky.

Elytropachys obscurata, Motsch, Bull Soc Nat Mosc xxxix, 1866, part 1, no 2, p 419

In form like *E. wridescens*, but a little smaller. Shortly subovate, convex, shining, hairless, black, with the base of the antennæ, tibiæ, and tarsi reddish-testaceous, the posterior tibiæ infuscated

Length, a little more than 2½ mm

CEYLON. Nuwara Eliya.

Elytropachys dorsalis, Motschulsky.

Elytropachys dorsalis, Motsch, Bull Soc Nat Mosc xxxix, 1866, part 1, no 2, p 419

In form like *E latisuma*, but the elytra are margined with red. Shortly subovate, convex, shining, hairless, red, with the head, thorax, and dorsum of the elytra black; underside somewhat fuscons ("subinfuscato").

Length, slightly over 21 mm.

CEYLON. Numara Eliya

Genus PANILURUS, Jacoby

Panilurus, Jac, Ann Soc Ent Belg xlvm, 1904, p 892.

GENOTYPE, Panslurus nelgersenses, Jac.

Body oblong-ovate, glabrous, metallic Head antennæ rather widely separated, the segments short, the terminal segments gradually thickened; frontal elevations absent Prothorax short, transverse, sides slightly rounded, posterior margin rounded, surface impunctate Elytra semi-regularly punctate, their epipleura broader at the base and narrowed towards the apex Undersider posterior femora thickened and channelled under-

neath for the reception of the tibiæ; tibiæ not channelled, front and middle pairs unarmed, posterior pair armed with a small spine at the apex, flist segment of posterior tarsi as long as the following segments together; claws appendiculate; prosternal process invisible between the coxæ; metasternum oblong, anterior coxal cavities closed behind

More nearly allied to the Australian genus Arsipoda than to any other in which the anterior coxal cavities are closed, but differing in having the prothorax much more transverse and devoid of the perpendicular impression on either side of the pronotum at the base, the tibiæ not sulcate, and the prosternum not visible

Range India.

193. Panilurus nilgiriensis, Jacoby.

Pantlurus nilgurensis, Jac., Ann Soc Ent. Belg xlvin, 1904, p 398

Colour above bright shining green or blue, underside metallic dark blue, the four basal segments of the antennæ, the tibis,

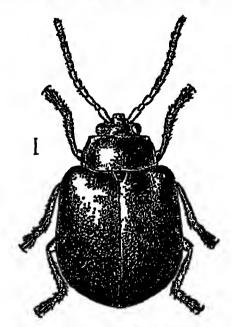


Fig 100 -Pantherns milgiriensis, Jac

tars, and labrum brown, the front and middle legs pitch-black, the six apical segments of the antennie blackish, but the blackish colour varies a great deal in shade, posterior femora metallic green or blue.

Head impunctate, without frontal elevations or carina, clyptus broad between the bases of the antennæ, apical segment of maxillary palpi acute and conical Antennæ robust, long, being only a millimetre shorter than the length of the body, first segment club-shaped, elongate, second small and rounded, third and fourth nearly equal; the seven terminal segments gradually and slightly thickened, apical segment pointed. broader than long, sides slightly rounded, auterior and posterior lateral angles not produced, slightly thickened, and having each a seta-bearing pore; basal margin rounded, surface convex and impunctate Scutellum triangular, smooth, and impunctate slightly widened towards the apex, broader at base than prothorax. base with a very shallow depression, finely punctate, the punctures being arranged in irregular and closely approximated rows; on either elytron there may be twenty-one of twenty-two rows, but owing to their irregularity the number cannot be exactly determined. Underside impunctate Length, 3-4 mm; breadth, 2-21 min

Length, 3-4 mm; breadth, 2-2½ m NILGIRI HILLS (H. L. Andrewes) Type in the British Museum.

Genus ERYSTUS, Jacoby.

Enystus, Jac, Ann Mus Civ Genova, xxii, 1885, p 39.

GENOTYPE, Erystus celebensus, Jac (Celebes)

Body broadly ovate Head. eyes entile; antennæ lather short and robust, the segments, with the exception of the first and the last, being almost equal in length Protholow marrowly transverse, sides strongly rounded, surface distinctly punctate Scutellum small, broader than long, triangular. Elytra semi-depressed and dilated at the sides, regularly punctate-striate, the interstices somewhat costate, lateral margins broadened, their epipleura very broad, concave when seen from the ventral side Underside anterior coxal cavities closed, prosternum rather broad, obsoletely carinate, posterior femora strongly incrassate; tibiæ short, dilated at the apex, the four anterior tibiæ unarmed, the posterior pair with a small spine (in the genotype, but this spine is absent in E andamanensis), their dorsal surface obsoletely channelled, tarsi broad and short, nearly equal in length; claws appendiculate Range. Celebes, Borneo, Andaman Islands.

194 Erystus andamanensis, sp. nov.

Body broadly ovate. Light brown, the seven apical joints of the antennæ and the eyes black.

Head broad, vertex convex, smooth and impunctate, frontal elevations and carinæ obsolete, clypeus narrowly and slightly

elevated Antennæ long, only half a millimetre shorter than the body, slightly attenuated towards the apex, sparsely covered (except the two or three basal segments) with fine hairs, first segment the longest and club-shaped, in this species the second segment is shorter than the third; the rest are almost equal *Prothorax* much broader than long, sides strongly rounded, front and basal margins almost straight, anterior angles slightly explanate; surface uniformly convex from side to side, very finely and more or less closely punctate. Scutellum small, triangular, with apex rounded and surface smooth and impunctate Elytra broader at base than prothorax, punctate-striate, on either elytron the arrangement of the strice is as follows a short

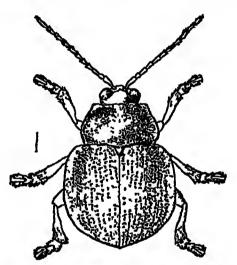


Fig 101 - Erystus andamanensis, Maulik

between the minth and tenth rows the interspace is very broad, outside the tenth row is a strip of narrow explanate margin; interstaces in this species appearing slightly raised towards the lateral margin but, not so pronouncedly raised as in the genotype, the interstaces are scattered over with fine punctures, but the latter are not of the granulose type. Underside impunctate; posterior tibus not armed with a spine as in the genotype; claws appendiculate

Length, 3½ mm.

ANDAMAN ISLANDS (Captain Wimberley)

Type in the British Museum. Described from two examples

Genus PODAGRICA, Fonds as

Podagrica, Foudras, Hist Nat Col France, Altisides, 1860, p 837 Nisotra, Baly, Ann & Mag Nat Hist (3) xiv 1864, p 437, Weise, Naturg Ins Deutschl vi, 1893, p 681

GENOTYPE, Altica fuscipes, Fabr. (Europe).

The insects of this genus are small and ovate Their general colour-scheme is that the head, part of the antenue, the pronotum, and legs are brown or red-brown and the elytra metallic blue. Head broad, with vertex convex, the latter bounded in front by two oblique impressed lines Antennæ comparatively short, passing to a certain distance beyond the base of the pronotum, situated rather far apart, interuntennal space uneven, each antenna thickens towards the apex, the thickened apical segments being more bristly than the basal segments Prothorax broader than long, its surface being more or less convex, sides iounded, sometimes narrowly margined, anterior angles more or less expanded, the basal margin somewhat sinuate, nearer the lateral margin there is on either side a short impressed line perpendicular to the base, and sometimes a similar line situated nearly opposite, perpendicular to the front margin Scutellum triangular, with Llytra very slightly broader at base than apex rounded. prothorax, punctate-structe, the true being irregular, sometimes more so and sometimes less. Underside, anterior coxal cavities closed behind, abdominal sternites generally punctate and covered with fine hairs, posterior femora thickened but not considerably, and this is in haimony with the insect's feeble power of jumping, tibia almost as long as the femora, received into a channel in the femora when in repose

The first segment of the tars in the male is larger than the corresponding segment in the female. Some of the species are

apterous

Range This genus has a wide distribution in Europe, America, Africa, and Asia.

Key to the Species.

1. Insect brown above $\mathbf{2}$ 4 Insect not brown above 2 Entire insect, including appendages, brown P ceylonensis, Jac., p 274. Entire insect not brown, some of the appendages at least are partly black 3 Breast and abdominal steinites (except P cardon, Jac, p 275 the apex of the last) black Breast and abdominal sternites brown P badia, Haiold, p 275 4 Upper side bluish, in some cases diluted with blown, scutellum black, pronotum and elytra usually con-

P. semicæi ulea, Jac, p 276

VOL II

colorous, underside brown

No such combination of colours: pronotum and elytra not concolorous -5. Pronotum always brown or red-brown, elytra of a different colour (blue, black or green, or a mixture of these colours) *** ***** **** 6. Each elytron with eleven regular longitudinal single rows of punctures P. striatipennie, Jac , p. 277. Each elytron either with more or less regular double rows, or with a tendency towards such an arrangement, or with confused punctuation 7. 7 Elytra black, with the punctuation showing a tendency towards formation of double rows P. nigripennis, Jac, p 277. Elytra blue or green or a mixture of these colours 8 Elytra blue or blue-green, with the punctuation more or less arranged in double rows P. bowrings, Baly, p 278 Elytral punctures confused 9 Surface of pronotum convex, shining P madurensis, Jac., p 279. Surface of pronotum rather flat, not shining P dohertys, sp n., p 280

195. Podagrica ceylonensis, Jacoby.

Podagrica ceylonensis, Jac, Entomologist, xxxn, 1899, p 82

Body ovate. Colour entirely brown

Head: vertex convex, impunctate, separated from the eyes by oblique impressed lines, frontal tubercles obsolete, interantennal area somewhat raised. Antennæ almost as long as the body (only about one-half a millimetre shorter), first segment thickened and club-shaped, second shorter but thicker than third, the latter and the following two equal in length, from the sixth to the last the segments are slightly thicker. Prothorax somewhat broader than long, front and basal margins almost straight, the latter may be slightly sinuate, at each side, perpendicular to the base, is a short impressed line, sides margined, slightly rounded in front, at the anterior angles the margin is somewhat truncate, and each of the anterior and posterior angles bears a seta, surface convex, fairly closely punctate, the punctures being Scutellum small, triangular, with apex rounded and Elytra broader at base than prothorax, surface impunctate punctate-striate, on each elytron there are eleven rows of punctures, including a scutellar row and an extreme marginal row, the punctures themselves being shallow; interstices somewhat Underside smooth, shining; prosternum narrow and elongate; abdominal sternites sparsely hairy.

Length, 2 mm CEYLON (Thwastes), Perademya, 1. x. 1913 (F. Rutherford). Type 111 the British Museum.

196. Podagrica cardoni, Jacoby

Nesotra cardone, Jac, Mém Soc Ent Belg vu, 1900, p. 125

Shining testaceous; the four basal segments of the antennæ testaceous, the seven terminal segments, the breast and abdomen black, last abdominal sternite fulvous at the apex, mandibles

black at the apex.

Head with vertex convex and impunctate, clypeus separated by oblique un pressed lines, face broad, impunctate. Antennæ rather 10bust, 1eaching a little distance beyond the base of the pronotum; first segment long and club-shaped, second shorter but thicker than thind, which is more slender and almost equal to the fourth in length, from the fifth to the end the segments become slightly thicker and more hairy Prothorax broader than long, sides straight at the base, slightly counded at the middle, anterior angles thickened, each of the anterior and posterior angles having a setabearing pore, surface, seen under a high power, very minutely punctate, at each side, perpendicular to the basal margin (not the anterior maigin, as Jacoby incorrectly writes), are two longitudinal impressions, close to each other; perpendicular to the auterior margin, at each side, is a long, rather curved, longitudinal Scutellum triangular with apex rounded and suiface impunctate Elytra convex, not much founded at apex, broader at base than prothorax, punctate-structe, on each elytron the punctuation is as follows first, a double scutellar row of punctures, then follow eight double rows, after that there is a single row, the interstice next to it being very broad at the base, and, finally, there is the extreme marginal row, the punctures of the double. 10ws are irregularly arranged, and the interstices towards the lateral margin are very slightly convex, humeri convex and impunctate Underside legs robust, prosternum elongate, with a lateral ridge, abdominal sternites finely punctate and sparsely

Length, 4 mm.

BENGAL Mandar (Cardon)

Type in the British Museum.

197 Podagrica badia, Harold

Nisoti a badia, Har, Col. Hefte, xvi, 1876, p 230

Body ovate, rather marrowed towards the apex Colour entirely brown, except the seven apical joints of the antennæ, the apices

of the tibiæ, and the tarsi, which are black or piceous

Head vertex not very convex, impunctate, limited by two oblique impressed lines, ever convex, interantennal space without any ridge. Antennæ long, but somewhat shorter than the length of the body; first regment long and club-shaped, second, third, and fourth almost equal in length, fifth slightly longer and thicker than each of the preceding three segments, sixth and each of the following equal to the fifth, the last segment pointed. Prothorax

broader than long, sides slightly rounded at the middle and narrowed in front, at the anterior angles the margin is expanded. ending in an acute point, each of the anterior and posterior angles bears a seta situated in a pore, basal margin slightly sinuate, surface uniformly convex and, seen under a high power. extremely minutely punctate, perpendicular to the anterior margin, on either side, is a longitudinal impression, but perpendicular to the posterior margin there is no corresponding impression. Scutellum triangular, with apex not very rounded and surface, seen under a high power, shagieeiied slightly broader at base than prothorax, on each elytron the arrangement of the lows of punctures is as in P cardon, but the nunctures are so feeble as to be almost indistinguishable, list interspace broad at base, as in P cardon Underside shiping: abdominal steinites thickly punctate The males are smaller than the females and have the first segment of all the tars much enlarged.

Length, 33-41 mm

CEYLON (Nietner). 1872 (Thivaries); Kandy, vi. 1900 (G. E. Bryant), and 1546-1727 ft, 17-23 n 1882 (G. Lewis); Balangoda, 1776 ft., 3-16 m. 1882 (G. Lewis)

Type possibly in Mons Oberthur's collection. There are many

specimens in the British Museum.

198 Podagrica semicærulea, Jacoby

Nisoti a semicarulea, Jac, Ann Soc Ent Belg xlvn, 1903, p 109

Colour above bluish, in some cases much diluted by brown, elytra and pronotuin usually, but not always, concolorous, under-

side and antennæ fulvous, scutellum blackish

Head rather long, impunctate, impressed with an oblique line above the eyes, frontal tubercles absent Antennæ with basal segment long and club-shaped, second small, nearly one-half the length of the first, the third and the two following segments equal, from the sixth to the last the segments are slightly thickened. Prothorax twice as broad as long, sides rounded before the middle, each of the anterior angles has a seta-bearing pore, on each side, from the front margin, rises a deep, short, incurved and perpendicular impression, within which are three deep pits, surface very finely and rather closely punctate, posterior margin simuate at each side Scutellium triangular, smooth and impunctate Elytra broader at base than prothorax, narrowed but rounded at apex, punctate in closely approximated double or treble rows, the rows are more or less confused, but follow the general plan stated in the description of P cardon Underside tarsal segments feeble, claws appendiculate

Length, 4 mm.

Type in the British Museum.

199 Podagrica striatipennis, Jacoby.

Podagrica (Nisotia) striatipennis, Jac., Ann Soc Ent Belg xl, 1896, p 268

Body oblong, parallel-sided, pointed behind Fulvous; elytra metallic blue, the four basal segments of the antenuæ brown, from the sixth to the last the segments are black, breast and abdomen

(except the last sternite) more or less black

Head with vertex convex and impunctate, it ontal tubercles obsolete, clypeus transversely raised Antenue extending a little beyond the base of the pronotum, robust, first segment much thickened and large, second shorter but thicker than third, the latter and the two following segments equal, from the sixth to the last the segments are thickened. Prothorax a little less than twice as broad as long, sides much rounded, anterior lateral angles thickened, posterior margin slightly sinuate on either side, its median lobe rounded and but little produced, on either side, nearer to the hind angle than to the median lobe, is a deep but short impression perpendicular to the base, while behind either eye, and perpendicular to the anterior margin, there is also a short but deep impression, each of the anterior and posterior lateral angles bears a fine seta, surface rather convex, very finely and rather closely punctate Scutellum small, triangular, and Elytra hardly broader at the base than the prothorax, nearly parallel-sided, pointed at the apex; very strongly and rather regularly punctate-structe, each elytron having about eleven rows of punctures, including a short scutellar and an extreme marginal row, intervals finely and closely punctate Undersule legs robust

Length, 3½-4 mm
BOMBAY Belgaum.
Type in the British Museum.

200 Podagrica nigripennis, Jacoby.

Podagrica (Newtiu) nigi ipennis, Jac, Ann. Soc Ent Belg xlvii 1903, p 109

Body very convex, pointed behind Colour black, the four basal segments of the antennæ, the head, prothorax, prosternum.

and legs tulvous

Head impunctate, frontal tubercles oblique, rather small, interantennal carna flat and short. Antennæ only about one millimetre shorter than the length of the body, first segment long and club-shaped, second slightly shorter than third, fourth equal to third; from the fifth to the last the segments are more clongate and slightly thicker. Prothorax about twice as broad as long, convex, sides rounded, anterior angles distinct and thickened, each having a seta-bearing pore, on each side, perpendicular to the front margin, is a longitudinal, short, and deeply

impressed line, surface, seen under a high power, shallowly punctate. Scutellum triangular, smooth, and impunctate Elytra narrowed and pointed towards the apex, shoulders bounded by a depression within, surface very finely and closely punctate, the



Fig 102 -Podagrica nigripennis, Jac

punctures sometimes arranged in irregular double rows Underside epipleura of elytra broad and convex, prosternum elongate; first segment of the anterior and middle tarsifof the male dilated, claws appendiculate

Length, 4 mm.
NILGIRI HILLS
Type in the British Museum

201. Podagrica bowringi, Baly.

Nisotia bowningi, Baly, Traus Ent. Soc Lond 1876, p. 584, Jacoby, Ann Mus Civ Genova, xxvii, 1889, p. 196

Colour blue or blue-green of varying shades; underside, scutellum, and the seven apical segments of the antennæ piceous; legs, prothorax, and head light brown to dark brown; eyes black.

Head with vertex convex, visible from above there are two oblique impressed lines, meeting in front and each touching the posterior edge of the eve; the depth of these impressions varies; interantennal space uneven. Antennæ passing beyond the base of the pronotum and nearly reaching the middle of the elytra, first segment long, club shaped, second segment longer than third, the latter elongate, slightly longer than the fourth or the fifth,

the punctures near the lateral margin fairly regularly arranged in rows *Underside*. epipleura of elytia broad, transversely wrinkled. In the male the first segment of the front and middle tars is dilated.

Length, 41 mm.

Madras Madura; Nilgiri Hills.

Type in the British Museum.

203 Podagrica doherty, sp. nov.

Elytra blue; thorax, the four basal segments of the antenna and the legs red-brown, underside piceous, the seven apical

segments of the antennæ black

Head: vertex convex, impunctate, bounded in front by two oblique impressed lines, which converge in front, interantennal space without any ridge. Antennæ leaching the middle of the elytra, first segment thickened, club-shaped, second slightly shorter than third, fourth slightly shorter than third, fifth almost equal to fourth; from the sixth to the last the segments are slightly thickened and sparsely covered with whitish hairs. Prothorax broader than long, sides gently rounded, anterior angles slightly expanded, posterior almost right angles, on each side is an impressed line perpendicular to the front margin, surface rather flat, not shining, uniformly, closely, and minutely punctate Scutellum triangular, piceous, smooth, and impunctate. Elytra slightly broader at b se than prothorax, closely and confusedly punctate. Underside smooth, abdominal sternites sparsely covered with hair, claws appendiculate.

Length, 4 mm

BURMA Ruby Mines (Doherty), Sadon, 4000 ft., 1v. 1911

(E Colenso, Indian Museum)

Type in the British Museum, four paintypes in the Indian Museum.

Described from nine examples, in which the pure blue colour of the elytra is constant.

Genus PHÆLOTA, Jacoby.

Phalota, Jac., Proc Zool Soc Lond 1887, p 94

GENOTYPE Phalota semifasciata, Jac.

Body ovate, convex, narrowed behind —Head antennæ rather widely separated, eyes strongly convex Prothoraæ broader than long, its upper surface without any deep impression Elytra punctate-striate, interstices smooth, flat, and impunctate. Underside anterior tibiæ unarmed, first segment of posterior tarsi as long as the next two segments together; claw-segment long and projecting much beyond the bilobed segment, claws with a projection on the underside at the bise, prosternum broad, with its base truncate, anterior coxal cavities closed.

This genus strongly resembles Chabria, Jac., in its convex appearance

Range Ceylon

204. Phælota semifasciata, Jacoby.

Phælota semifasciata, Jac, Proc Zool Soc Lond 1887, p 94

Body ovate, convex, narrowed behind. Colour shining reddishbrown, with a bronzy-blackish longitudinal stripe on each elytron; towards the base of the elytra this latter colour is usually extensively suffused and not strictly defined; the stripe lies along the outer part of the elytron, extending up to the apex, and is also ill-defined as to its boundaries; the six apical segments of the antennæ are black; surface of pronotum with obscure diffused

dark patches.

Head broad, vertex convex, rather spaisely and minutely punctate, and delimited from the rest of the face, which is impunctate, by a deep transverse and irregular impression; eyes large; frontal tubercles more or less prominent Antennæ about two millimetres shorter than the length of the body, first segment long and club-shaped, second small, slightly thicker and shorter than third, the latter and the fourth slender and almost equal, fifth thicker from the sixth onwards the segments are thicker and opaque Prothoran broader than long, convex, sides straight, slightly rounded in front, anterior and posterior margins almost straight, anterior angles thickened and slightly expanded. each with a seta-bearing pore; each of the posterior angles also has a seta-bearing pore, but is not so expanded as the anterior angles; surface rather sparsely and finely punctate Scutellum broad, triangular, with apex broadly rounded and surface smooth and impunctate Elytra almost as broad at base as prothorax, punctate-strute, on each elytion there are eleven lows of punctures including a short scutellar and an extreme marginal row; interstices smooth, flat and impunctate, that between the ninth and the extreme marginal rows is the broadest, the extreme marginal row is situated in a deeply impressed line Underside smooth, impunctate, shining, glabrous

Length, 51 mm, breadth, 3 mm, length of antenna, 31 mm. Cerron Bogawantalawa, 4900-5200 ft, 21 m-4. w 1882 (G.

Lewis)

Type in the British Museum.

Genus APHTHONELLA, Jacoby.

Aphthonella, Jac, Ann Mus Civ Genova, xxvii, 1889, p 204

GENOTYPE, Aphthonella bhamoensus, Jac

Body chlong-ovate; antennæ filiform. Prothorax broader than long, without any antebasal transverse furrow. Elytra punctatestriate On the underside the following three characters will

distinguish this genus from others (1) the anterior coxal cavities are closed behind, (2) the first segment of the posterior tarsi is longer than the two following segments together, (3) the claws

are appendiculate.

The general appearance of the insect is that of an Aphthona, but it is distinguished by having the elytra regularly punctate-striate, and the anterior could cavities closed From Aphthonoides, Jac (1885, Sumatra, Japan), this genus differs in the long first segment of the posterior tarsi

Range Burma

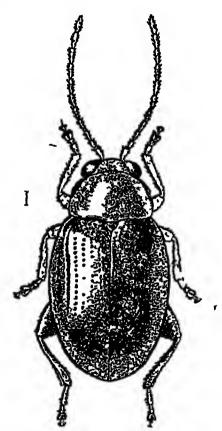


Fig 103 -Aphthonella bhamoensis, Jac

205. Aphthonella bhamoensis, Jacoby.

Aphthonolla bhamoensis, Jac, Ann. Mus Civ Genova, xxvu, 1889, p 204

Body ovate Colour of head, antennæ, prothorax, front and middle legs shining yellow-brown (the prothorax rimmed all round with black), posterior tarsi and apices of posterior tibiæ pitch-brown, test of the body shining black

Head with vertex convex, smooth and impunctate, frontal elevations present but not very prominent, eyes strongly convex. Antennæ somewhat shorter than the length of the body; first segment long and club-shaped, second small, shorter and stouter than thud, fourth almost equal to third, from the fifth onwards the segments are somewhat longer and more harry. Prothep ax a little broader than long, sides rounded, anterior angles obliquely truncate, posterior angles rounded, surface convex, minutely and sparsely punctate. Scutellum small, triangular, impunctate, with apex broadly sounded. Elytra broader than prothorax, punctatestructe, each elytron having eleven rows, including a scutellar and an extreme marginal row, punctures of the rows near the suture rather irregularly arranged; interstices flat. Underside smooth, shining, prosternum broad, closely studded with large pits, anterior coxal cavities closed behind, posterior temora strongly incressate, posterior tibie longer than either the front or the middle pairs, channelled on the upper side and broadened at the apex, where there is a series of small spinules on each side, first segment of the posterior tarsi almost as long as the three following segments together. claws appendiculate.

Length, 3 mm.

BURMA Bhamo, vi 1886 (L. Fea).

Type in the Genoa Museum.

SECTION III SUBSECTION IV

Pronotum and elytra not pubescent, claw-segment of hind tarsus not greatly dilated, front coxal cavities open behind

1	In front of, and parallel to, the base of the pronotum is a shallow or deep impression	20
	No such ante-basal impression on the	
_	pronotum.	2,
z	Small insects (21 mm long), elytron	r_ ana
	with an obliquely longitudinal humeral iidge	[p 286
	Elytron with no such ridge	P-EUDAPHTHONA, JRC,
2	All the tibie short, somewhat curved,	9 ,
•	the front pair with a broad emaigr-	
	nation on the outer edge nearer the	
	aper.	PENTAMESA, Harold, p 288.
	Tibies not so constructed	4
4	Posterior tibite with a broad apical	
	projection or spur ending in two	
	principal points	5
	Posterior tibes without any such	
5	double-pointed spur Eyes large and nearly contiguous,	7
v,	separated only by a thin strip .	PARADIBOLIA, Baly, p 294.
	Exes not nearly contiguous	6
		4.

6	Antennæ relatively long, with the third segment short Antennæ comparatively short, with	[p 296 Argopistfs, Motsch, [p 801.
7	the third segment the longest Elytra regularly punctate-striate, the	ARGOPISTOIDES, Jac,
•	rows being placed at an appreciable	0
	distance apart Elytra confusedly and sometimes ob-	8
8	soletely punctate * Punctures of the elytral strue ine,	11
	interstices absolutely flat Punctures of the elytral strice deep,	9
٥	interstices slightly raised Prothorax much broader than long,	10
•	its base sinuate, the median basal	T
	lobe slightly produced Prothorax quadrate, narrowed in	JACOBYANA, gen n, p 302.
	tiont, its base not sinuate, the sides of the pionotum slope down	
10	sharply in front First segment of antenna much longer,	LANKA, gen n, p 304
	protholax more transveise First segment of antennæ not so long,	EUCYCLA, Baly. p 305.
77	prothorax less transverse	THRYLEA, Jac, p. 307
11	Antenno widely separated at their bases, which almost touch the inner	40
	margins of the eyes Antenne not so widely separated,	12
	their bases, though not contiguous, are well away from the inner mar-	
12.	gins of the eyes Small ovate insects (2 mm long).	13
	anteunæ nearly half the length of the body	[p 309 AMPHIMELOIDES, Jac,
	Larger meects (31 mm long, 2 mm	[p 310
7.0	broad), antennæ short not reaching beyond the base of the pronotum	PARATHRYLLA, Duviv,
19.	Posterior tibiæ cylindrical (at most flattened a little donally at the	
	apex), their upper surface not chan- nelled, body convex, very finely	- 070
	and obsoletely punctate Posterior tibiæ with their upper rui-	CHABRIA, Jac, p 812
	face either flat or slightly chan- nelled near the apex	14
14	Posterior tibre deeply channelled Body hemispherical first segment of	19
	the posterior tarsi normal, i e, very	15
	much shorter than the tibia. Body elongate or ovate, first segment	A-1
	of the posterior tain longer in comparison with the tibia	16

^{*} In some genera there may be a tendency of the punctures to form rows, but irregularly, and the interstices are usually filled with confused punctures

15 Prosternum large and elevated, mesosternum arched, labrum large. Prosternum narrowly elongate. meso-

sternum strongly transverse, widened at the middle, labrum normal

16 First segment of posterior tars: very long, almost as long as, or at any rate never less than half the length of, the tibia

First segment of posterior tarsi always less than half the length of the tibia

17 Second and third segments of the antennæ always small, posterior edge of elytra sparsely set with very short hairs

No such combination of characters

18 Posterior tibine depressed at the ape,,
which is divided into two very short
lobes, each usually ending in a short
spinule

Posterior tibre not depressed at the apex, which is rounded and furnished with a small spinule placed in the middle of the terminal border

19. Small ovate insects (3 mm long), with the lateral boiders of the pronotum not dilated or margined (except at the anterior angle)

Much larger, elongate insects (more than 3 mm long), with the lateral borders of the pronotum narrowly dilated or margined

20. Elytral punctures regularly arranged in longitudinal lines.

Elytral punctures not so arranged

21 Body constructed at the junction of elytra and prothorax, pointed at the apex of the elytra, antennæ longer than the body

No such combination of characters

Elytral rows of punctures very fine

Elytral rows of punctures very deep
and larger.

23 Body cylindrical, prothorax quadrate, posterior tions short, broadened towards the apex, and channelled, first segment of posterior term as long as the following two together No such combination of characters

24 Small insects (2-3 mm long), antennæ slender, second segment stouter than, but otherwise almost equal to, third, fourth shorter than third

[p. 316 SPHÆRODERMA, Stephens,

IVALIA, Jac, p 330.

Longitarsus, Latr, p 333

17.

[p 361. Luperomorpha, Weise, 18

APHTHONA, Chevr., p 366

PHYLLOTBETA, Foudias,

Morylus, Jac, p 381

SFBATHE, Baly, p 382

21 23

ALYTUS, Jac, p 404 22 PHILOGEUS, Jac, p. 405.

Manobia, Baly, p. 407

Trownius, Jac, p 409.

HERMEOPHAGA, Foudras,

	Larger insects, antennia stout, second and third segments of equal	
25.	thickness	25
	almost equal to each other in length.	26
	Fourth segment distinctly longer than third	27.
26	Ante-basal transverse impression on	21.
	pronotum shallow	PHYGASIA, Baly, p 412
	Ante-basal impression deep .	HALTICA, Fabr, p 418
27	Ante-basal impression on pronotum very close to the basal margin, not bounded on either side by a short	
	longitudinal impression	PARLINA, Motsch, p 424.
	Ante-basal impression bounded on either side by a short longitudinal	,,,
	impression	LACTICA, Erichs., p 426

Two genera, viz, Mniophila, Stephens (p. 428), and Argopus, Fischer (p. 429), containing misects of doubtful position from our regions, are not included in the above key

Genus PSEUDAPHTHONA, Jacoby

Pseudaphthona, Jac, Ann Soc Ent Belg alvu, 1903, p 104

GENOTYPE, Pseudaphthona humerales, Jac.

Body oblong Antennæ thickened towards the apex Palpi robust Protho av subquadrate, without ante-basal sulcus, the anterior angles oblique Elytra irregularly punctured, and having an oblique longitudinal humeral ridge Prosternum twice as long as broad, longitudinally sulcate, anterior coxal cavities open



Fig 104 — Pseudophthona humeralis, Jac, part of prothorax and elytron, to show the humeral ridge of the latter

Tibiæ dilated in front, sulcate, the anterior and intermediate pairs unarmed, the posterior with a spine. Posterior femora thickened.

Claws appendiculate

Allied to Aphthona, but separated by the unarmed anterior tibis, which are also distinctly dilated, and by the elongate and sulcate prosteinum. The following species cannot be reteired to Weise's genus Luperomorpha, in which the second and third segments of the antennæ are extremely small and the elytra finely

pubescent behind, nor does Weise mention any dilatation of the apical segments of the antennæ, or say whether the anterior tibiæ are armed or not

Range India.

206 Pseudaphthona humeralis, Jacoby

Pseudaphthona humeralis, Jac, Ann Soc Ent. Belg xlvn, 1903, p. 104

Colour above metallic dark blue, underside and antennæ black.

Head with vertex impunctate, frontal elevations distinct,
triangular Antennæ extending to about half the length of the

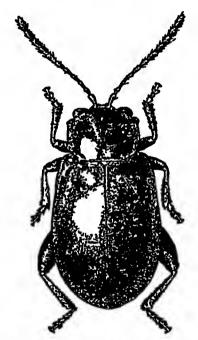


Fig 105 -Pseudaphthonu humeralis, Jac

elytia, first segment thickened, second segment one-half shorter than first, third, fourth, and fifth each only slightly longer than second, from the sixth to the end the segments become gradually thicker Prothonax almost as broad as long, sides very feebly rounded, front and basal margins straight, anterior angles oblique, slightly expanded, each of the auterior and posterior angles having a seta-bearing pore, surface transversely convex, sparingly punctate Elytia but little wider at base than prothorax, subcylindrical, rounded at the apex; a little behind the basal margin there is a rather deep transverse depression across each elytion, surface strongly and closely punctate, less strongly towards the

apex: shoulders strongly raised, with an acute and oblique longitudinal ridge extending to the middle of the elytron. The underside is sparingly hairy

In the male the tibiæ and tarsi are more strongly dilated and

the elytral ridge is less prominent than in the other sex.

Length, 3 mm

NILGIRI HILLS (Andrewes Coll)
Type in the British Museum.

Genus PENTAMESA, Harold

Pentamesa, Harold, Col Heft av, 1876, p 124

GENOTYPE, Pentamesa duodecummaculata, Harold.

Body convex, subhemispherical Head broad, eyes convex, prominent, the surrounding area depressed, frontal tubercles developed, interantennal space broad Autennæ extending to about the middle of the elytra, third and fourth segments more slender than the others Prothoraæ almost quadrate, without any ante-basal furrow; basal margin gendy sinuate, with a



Fig 106 -Pentamesa duodecummaculata, Harold, front leg of male

central lobe Scutellum small, narrow. Elytra hardly broader at base than prothorax, confusedly punctate Underside: prosternal process broad, flat, truncate behind, anterior coxal cavities open behind; mesosternum pentagonal, emarginate behind; all the femora thickened, the posterior pair rather more strongly increasate, tibber short, broadened towards the apex, bent and deeply suicate on the outer side (the front pair also broadly emarginate on the outer side near the apex), all armed with a short spine at the apex. claws appendiculate.

Range India, Indo-China.



Fig. 107 -Pentamesa duodecimmaculata, Harold, middle leg of male.



Fig 108 -Pentamesa duodecummaculata, Harold, hind leg of male.

Key to the Species

 Elytra black with bluish-green sheen, and with brownish-yellow patches
 Elytra brown or somewhat lighter, with black patches

2. Pronotum reddish-brown .
Pronotum black, with brownish-yellow patches or bands

S. Pronotum with three longitudinal stripes, one median and two lateral Pronotum with two lateral stripes and two median patches, one basal and the other apical

[Harold, p 290. P duodecummaculata,

P. haroldi, Baly, p. 291

P. trigiapha, sp n, p. 292

P. cribellata, Weise, p. 293.

207. Pentamesa duodecimmaculata, Harold

Pentamesa duodecimmaculata, Harold, Col. Heft. xv, 1876, p. 124, Baly, Cist Ent. 11, 1879, p. 448

Pentamesa generosa, Weise, Deutsch. Ent Zeitschr 1895, p. 332.

Pentamesa subfasciata, Weise, t c p 333.

Generally dark brown, with the elytra sometimes very light; in the latter case the suture and edges are dark brown. The following patches on the pronotum and elytra are black on the pronotum, two large more or less rounded patches, one on each side of the longitudinal middle line; on each elytron, two large

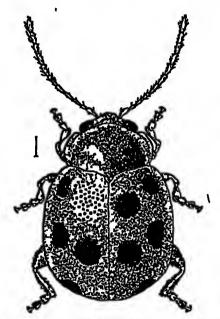


Fig 109.—Pentamesa duodecimmaculata, Harold

more or less rounded patches side by side occupying the basal part, across the middle poition two similar patches and, near the apex, one large patch, the two patches across the median part sometimes coalesce and form a transverse band, but there are transitional stages in which they retain their round contour, yet meet each other by throwing out each a narrow projection, in some cases the first, or basal, pair also show a tendency to coalesce, and in other examples they are actually joined, the size of the patches also varies. In many cases, in a suitable light, a very faint purplish or bluish tint may be observed on the black patches. Underside, or sometimes only the breast, piceous. Scutellum dark brown to pitch-black.

Head broad, with vertex impunctate, interocular space depressed and rough, the frontal tubercles, which are broad and

transversely placed, are delimited by deeply impressed channels; the internateunal space is similarly raised as a result of being surrounded by these deep channels; eyes also on a raised surface: mouth-parts somewhat exserted, labrum broader than long. Antennæ extending to about the middle of the elytra, first segment long and club-shaped, second small, thicker but shorter than third, fourth somewhat longer than third, from the fifth the segments are very slightly thickened and about equal, the last being truncate and pointed. Prothorax broader than long, front margin widely sinuate, hind margin very feebly bisinuate on each side, sides gently rounded, anterior lateral angles somewhat thickened, each of the four corners with a small fine seta: surface strongly punctate, the punctures generally more crowded towards the base and sides, there is a certain amount of variation in the punctuation of the pronotum, in some specimens the punctures are finer and generally sparser, while in others they are stronger. Scutellum small, triangular, with apex rounded and surface smooth and impunctate. Elytra hardly broader at base than prothorax, strongly and confusedly punctate, the punctures being usually stronger than those on the pronotum Underside covered with fine hairs.

In the male the pronotum appears to be not much broader than long, and the front tibe have a wide emargination at the apex.

Length, normally 42-5 mm., but it can reach 6 mm., as recorded

by Harold

INDIA (type-locality) I have before me a large series of examples from various localities as follows —ASSAM (W. F. Badgley); Shillong (F W. Champion) BURMA N. Chin Hills. United Provinces Almora, Sunderdhunga Valley, 8,000—12,000 ft, vi 1919 (H. G. Champion), Kumaon, Naim Tal Division, ix 1918 (H. G. Champion). Sikkim: Rungbong Valley, Gopaldhara (H. Stevens)

The location of the type of P. duodecummaculata is unknown

to me

In the British Museum there are examples of *P. generosa*, Weise, and *P subfasciata*, Weise, from the Himalayas. After comparing these with the many specimens of *P duodecimmaculata* before me, I am of opinion that they are all the same species.

208 Pentamesa haroldi, Baly.

Argopus haroldi, Baly, Trans Ent Soc Lond. 1876, p. 489, Weise, Deutsch Ent Zeitschr. 1895, p. 382.

Pentamesa guttata, Weise, t c p. 384.

Body subhemispherical Head, antennæ, prothorax, and legs red-brown, underside piceous to black, sometimes the distal parts of the abdominal sternites are brown, elytra black with a bluishgreen shimmer, with the sides all round and the suture narrowly red-brown, each elytron with six round yellow patches disposed

as follows: one on the middle of the basal part, two lying side by side before the middle, two lying side by side behind the middle, and one near the apex; in some cases there are indistinct

black marks on the pronotum, scutellum pitch-brown.

Head broad, with vertex impunctate, frontal tubercles round and well-developed, interantennal area broadly raised. Antenna hardly extending to the middle of the elytra; first segment long and club-shaped, second thicker but not shorter than third, fourth slightly longer than third, fifth about equal to fourth; from the sixth the segments are gradually but slightly thickened thorav broader than long, sides rounded, slightly margined, anterior lateral angles thickened, basal margin gently sinuate at each side, with a broadly rounded median lobe, surface smooth, convex, sparsely punctate, the punctures being strongly impressed and more crowded near the base and sides than elsewhere. Scutellum small, triangular, with apex rounded and surface smooth and impunctate Elytra hardly broader at base than prothorax, closely, confusedly, and strongly punctate, the punctures being stronger than those on the pronotum, and less crowded on the yellow spots than on the surrounding surface. Underside upper surface of middle tibize broad with somewhat raised margins, which are elevated into broad processes at the apex

In the male the front trbise are bent and emarginate at the

apex

Length, 5 mm

INDIA (type-locality). HIMALAYAS (Andrewes) DARJEELING (Hauser)

Type of P. harolds in the British Museum.

There are in the British Museum two examples from the Hauser Collection, which were described by Weise as *Pentamesa guttata*, but I think the latter is identical with *P. haroldi*

209 Pentamesa trigrapha, sp nov

Head, antennæ, and legs brown. Prothorax, elytra, and underside black, elytra with a bluish-green shimmer. On the pronotum there are three brown longitudinal stripes, one median and one along each lateral margin; the median stripe is somewhat broadened at base and apex, and the lateral bands are somewhat broadened in front. Each elytron has six more or less rounded brownish-yellow patches, which are disposed as follows one basal, two lying transversely before the middle, two others similarly placed behind the middle, and one, of a somewhat triangular shape, near the apex. Epipleura brownish-yellow, and all the margins of the elytra very finely edged with brown. Scutellum brownish. Bases of posterior femora blackish. The whole insect is slightly shining, more so on the underside

Head with vertex impunctate, smooth, front with a few scattered deep punctures, frontal tubercles and interantennal elevation well-developed Antenna extending to about the middle of the body; first segment long and club-shaped, second small, thicker than third, fourth somewhat longer than third; from the fifth the segments are somewhat thickened Prothoraa broader than long, sides rounded and margined, anterior lateral angles thickened; surface thickly punctate with deeply impressed as well as comparatively finer punctures, the lateral vellow-brown areas appear to be slightly raised. Scutellum small, triangular, with apex rounded and surface impunctate Elytia hardly broader at base than prothorax; surface confusedly, closely, and thickly punctate, the punctures on the brownish-yellow patches less strong and close than on the black parts of the surface; along the margin is a raised impunctate strip enclosed between two rows of punctures. Undervide covered with fine hairs Legs as in the description of the genus

Length, 41 mm

SIKKIM Mungphu (Atkinson)

Type in the British Museum. Described from one example.

210. Pentamesa cribellata, Wesse-

Pentamesa ci ibellata, Weise, Deutsch. Ent Zeitschr 1895, p 335

Head brown. Prothorax and elytra black; along each lateral maigin of the pronotum is a reddish-brown stripe, which is gently broadened in front and has a longitudinal dark streak before the middle, there are two other reddish-brown patches on the pronotum, a half-oval prich in the middle of the front margin, and a transverse streak bordering the base in front of the scutellum. The black colour of the elytra has a bluish shimmer, and on each elytron there are six yellow-blown patches: the first, at the base, is transverse, extending from the middle to the lateral margin but narrowed outwardly through the elevation of the humerus; the second and third, strongly transverse, he side by side before the middle, the former extending to the lateral margin and the latter to the suture; the fourth and fifth patches do not lie side by side, though they are postmedian, the former, roughly triangular in shape, is situated on the lateral margin, while the fifth, which is four-sided and twice as broad as long, is situated inwardly and a little more in front, the distance between the fifth patch and the suture is short, the sixth patch is round and near the apex of the elytron Breast and abdomen black. Epipleura brown

Head with front finely rugulose-punctate, frontal tubercles and interactional elevation pubescent Prothorax. upper side strongly, closely, and uniformly punctate Elytia strongly, closely, and confusedly punctate, much as is the promotum; along the lateral margin is a raised strip, somewhat broader in front and extending to the apical yellow-brown patch; the surface of the yellow-brown patches is as closely punctate as the black back-

ground.

In the male the front and middle femora are toothed, while the front tibise are bent and broadly and deeply emarginate at the apex.

Length, 6 mm. Sikkim (Hauser).

Type probably in the Berlin Museum.

I have not seen the type of this species, but it has sufficiently characteristic markings and structures to make identification from the description certain. The above description is adapted from the original in Latin and German.

Genus PARADIBOLIA, Baly.

Paradibolia, Baly, Trans. Ent Soc. Lond. 1875, p. 31

GENOTIPE, Paradibolia indica, Baly.

Body ovate Head short, inserted into the prothorax, antenna filiform; eyes more or less kidney-shaped, large, situated on the vertex and almost contiguous, separated only by a thin strip, frontal tubercles distinct Prothorax much broader than long, strongly convex, with no ante-basal furrow. Scutellum triangular with apex pointed. Elytra broader at base than prothorax, finely punctate-structe; the whole surface is extremely finely rugose. Underside anterior coxe transverse, their cavities open behind; prosternum broad, convex in front, slightly constricted in the middle and slightly broadened behind, and covered with hair; mesonotum oblique with the margin emarginate, posterior femora strongly incressate; anterior and middle tibie without spines at their apices; posterior tibiæ channelled on the dorsal side, with a large process at the apex, the process itself is broad and large, its apex being emarginate and each side of the emargination ending in a rather sharp point. The articulation of the tarsus is not at the apex of the tibies, and the claws are appendiculate Range, India

Key to the Species.

Smaller, shining blue-green above, with anteuns fuscous

P indica, Baly, p 294.

Larger, pure metallic blue above, with the iour basal segments of the antenue, the whole of the front and middle legs, and the hind tibise and tarsi, bright yellow-brown

P mla, sp n, p 296

211. Paradibolia indica, Baby.

Paradibolia indica, Baly, Trans Ent Soc Lond 1875, p 31

Body subrotund, convex. Upper surface metallic shining bluegreen; underside and antennæ brown, the distal segments of the latter, especially, more fuscous. Apices of hind femora piceous. Head small, rounded, completely buried in the prothorax; front narrow, wedge-shaped, with surface finely punctate; frontal tubercles and carina distinct. Antennæ comparatively short, passing to a little distance beyond the base of the pronotum; first segment long and club-shaped, second short, almost as long as third, which is more slender, fourth, fifth, and sixth elongate, almost equal; from the seventh onwards the segments are slightly shorter Prothorax much broader than long, narrowed in front, convex, basal margin slightly sinuate, sides straight but oblique, margin thickened at the anterior angles, the latter and the posterior

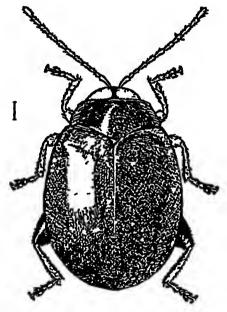


Fig 110 -Paradiholiz indica, Baly

angles each having a seta-bearing pore, surface finely and transversely strigose, the strige radiating from the longitudinal middle line towards the sides Scutellum triangular, with base slightly emarginate, apex acute and surface bearing a few minute punctures, which can be seen under a high power. Elytia broader than prothorax, punctate-striate, the strie being placed in faint furrows; the punctures themselves are very indistinct, and besides this the whole of the surface is finely rugose Underside: abdominal sternites sparsely covered with fine hairs; parts of the hind femora and legs generally similarly covered with hairs; otherwise the underside is impunctate and shining.

Length, 4-41 mm.

INDIA

Type in the British Museum

212. Paradibola nila *, sp. nov.

Very similar to *P. induca*, but larger and differing in coloration. Colour pure metallic blue; the four basal segments of the antennæ, the palpi, the fore and middle legs entirely, the tibes and tarsi only of the hind legs, and the abdominal sternites (except part of the first) bright yellow-brown; the seven apical

segments of the antennæ fuscous.

Head entirely imbedded in the prothorax; front narrow and wedge-shaped, with surface finely punctate, frontal tubercles rounded, interantennal carina broad Antennæ short, passing a little distance beyond the base of the pronotum, covered with fine pubescence (except the two or three basal segments); first segment long and club-shaped, second small and almost equal to, or very slightly shorter than, third, fourth elongate: from the fifth to the end the segments are almost equal thoraw much broader than long, convex, and in other respects as in P. indica Scutellum triangular, with apex acute and surface finely shagreened. Elytra broader than prothorax, the whole surface is very minutely rugose, and each elytron has ten or eleven rows of fine punctures, the rows, at least some of them, having the appearance of being placed in very faint furrows. Underside prosternum broad, elevated, with a median longitudinal depression and sparsely covered with fine hairs; abdominal sternites, some parts of the hind femora, and the other parts of the legs sparsely covered with fine hairs.

Length, 5 mm., breadth, 3½ mm. NILGIRI HILLS (G. F. Hampson)

Type in the British Museum Described from two examples. It is possible to regard this insect as a variety of *P. indica*, but I doubt this after examining five examples of *P. indica* and two of the present species

Genus ARGOPISTES, Motschulsky

Argometes, Motsch, in Schrenck's Reisen Amur-Lande, Col 1860, p. 236; Chapuis, Gen Col xi, 1875, p. 136

GENOTYPE, Argopustes biplagiata, Motsch. (Amur-land)

Body oval or round, convex. Head small, inclined in front; front with a little carina under the bases of the antennæ, frontal tubercles absent. Antennæ closely approximated at the base, extending a little distance beyond the base of the pronotum, first segment long and club-shaped, about equal to, or somewhat shorter than, the following three together, third segment the shortest; from the fifth the segments are gradually somewhat thickened. Prothoraw much broader than long, slightly narrowed in front, sides sloping; no ante-basal furrow. Scutellum small, triangular,

^{*} Sanskret "bine"

insignificant. Elytra hardly broader at base than prothorax, but broadening regularly behind; confusedly punctate, in some places the punctures show a tendency to form longitudinal rows, especially towards the sides. Underside: anterior coxal cavities open behind; legs short; posterior femora strongly incrassate; posterior tibies short and stumpy, not longer than the corresponding tarsis, broadening towards the apex, where there are two broad blunt spines; the posterior tarsi do not arise from the ends of the tibies, and their first segment is equal in length to the following two together; claws appendiculate

Range. China, Japan, India.

Key to the Species

1. Upper side pitchy-black, edged with brown all round the pronotal and elytral margins . A lamprotes, sp n., p 297 Coloration different 2 Elytra brown, with black spots კ Elytra brown, each with a lateral longitudinal black stripe 3 Each elytron with two black spots A quad imaculatus, Jac. p 299. Each elytron with three spots triangularly arranged A bistripunctata, Duviv, 4 Along the lateral margins of pronotum and elytra is a continuous black Гр 300. stripe . A mgromarginatus, Jac, Base of pronotum broadly, and bases, suture, and sides of elytia narrowly, black A mgruti iga, sp n, p. 301.

213 Argopistes lamprotes, sp nov.

Body strongly convex, rounded Upper side shining pitchyblack, lateral edges of pronotum and elytra brown; underside rich brown

Head with vertex, seen under a high power, extremely finely punctate, eyes very large, consequently the interocular space is narrow, but it contains a few deep pits; frontal tubercles absent, clypeus deeply concave. Antennæ extending to a certain distance beyond the base of the pronotum; first segment long and clubshaped, almost equal in length to the following three together, second thicker and longer than third, fourth also thicker and longer than third, from the fifth the segments gradually become thicker. Prothorax much broader than long, sides straight but oblique, anterior and posterior lateral angles rounded and each with a seta-bearing pore, front margin deeply but not uniformly concave, the middle portion being somewhat sinuate, posterior margin sinuate at each side and having a central lobe, surface closely and finely punctate, the lateral brown border being somewhat raised. Scutellum sharply triangular, with surface impunctate. Elytra the lateral margins of the prothorax and

those of the elytra form one continuous uniform carre on each side; surface closely and confusedly punctate, but there are faint indications of seven or eight longitudinal rows on each elytron, these being more visible towards the sides than towards the suture *Underside* covered with brownish hairs; double spine at the apex of the posterior tibia large and sharp

Length, 31 mm.; breadth, 3 mm.

BOUBAY Belgnum (Andrewes Coll.).

Type in the British Misseum Described from five examples. Jacoby doubtfully referred these examples from Belgaum to Argopistes limbatus, Motsch., from Amur-land. I think it is more convenient to regard them as different species

214 Argopistes quadrimaculatus, Jacoby

Ar gopistes quadi imaculatus, Jac., Ann Soc. Ent. Belg. xlvn, 1903, p 107

Body ovate, convex. Colour brown, each elytron with two black spots, a round spot at the base, nearer the scutellum, and

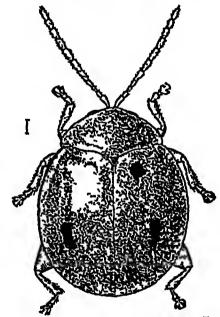


Fig 111 -Argopistes quadrimaculatus, Jac

another, more elongate and obliquely placed, at about the middle; in one example these black spots are obsolescent, though their position can be recognised.

Head with vertex impunctate, lower portion of face concave. Antennæ extending beyond the base of the pronotum, but not reaching the middle of the elytra; second segment thicker than, but about equal in length to, third, fourth longer, from the fifth

the segments are somewhat thickened. Prothorax strongly transverse, narrowed in front, the sides (viewed from above) rather strongly sloping, anterior lateral angles thickened, posterior margin feebly sinuate; surface minutely punctate, the interstices being not very smooth. Scutellum triangular, with surface smooth and impunctate. Elytra hardly broader at base than prothorax, sides uniformly rounded, humerus somewhat prominent, closely punctate, and scarcely more strongly so than the pronotum. Underside: posterior femora very strongly increasate; posterior tibies very short, broadly dilated at the apex, their edges raised, and ending in a spur with two points, first segment of posterior tarsi longer than the following two together

Length, 3 mm NILGIRI HILLS (Andrewes Coll.). Type in the British Museum,

215. Argopistes bistripunctata, Duriner.

Angopustes bush spunctata, Duviv, Ann Soc Ent Belg xxxvi, 1892, p 425
Angopustes længala, Jac, Ann Soc. Ent Belg xl 1896, p. 264

Body subhemispherical Colour entirely brown; pronotum with two black spots, and each elytron with three small round spots, placed triangularly. In some specimens the black spots

on the pronotum and elytra are obsolescent.

Head impunctate; eyes elongate, clypeus raised into an acute triangular ridge. Antennæ extending to a certain distance beyond the base of the prothorax; their actual length is certainly 21 mm (that is, half the length of the body), though the great convexity of the body makes them appear relatively shorter; first segment long and club-shaped, second thicker and larger than third, fourth slender and longer than third; from the fifth the segments are thickened, the apical five are flattened, and the last 1s somewhat longer. Prothorax much broader than long, strongly curved, anterior lateral angles thickened, anterior margin deeply concave, posteriol margin so strongly curved that the lateral margins are almost horizontal, the anterior and posterior lateral angles being two extreme points of a horizontal line on each side, posterior margin sinuate, produced into a short lobe in front of the scutellum; surface finely punctate. Scutellum small, triangular Elytia strongly rounded, punctate, the punctures are generally confused on the inner part, but towards the sides there is a tendency to form rows, one well-formed row demarcating the expanded lateral margin, while parallel to it there may be one or two rows; the punctures are a mixture of two sizes, finer and comparatively stronger, and they also vary in depth. Underside. elytral epipleura broad, deeply concave; prosternum elongate; underside clothed with thick golden pubescence.

Length, 5 mm; breadth, 4 mm.

BOMBAY: Kanara (type-locality of A. lævigata). BENGAL. Mandar (Pere Cardon, type-locality of A bistripunctata) ANDAMAN ISLANDS: many specimens in the British Museum (Captain Wimberley and Roepstorff). INDO-CHINA: Laos (Mouliot).

Location of type of A. bistripunctata unknown to me; Mons. Severin informs me that there are no examples under this name in the Brussels Museum. Type of A. lævigata, Jac, in the

British Museum.

Jacoby, when describing A. lavigata, was aware that Duviver had described A bistripunctata, but he differentiated the former from the latter as follows: in A. lavigata (1) "the antennæ extend to the base of the prothorax," (2) "the entire upper surface is without punctures or the latter are so fine as to be practically called absent," (3) "there is no trace of a double row of punctures at [sic] the elytra or at the sides." I have examined the type of A. lavigata and find that the above observations are not correct, Jacoby's error may have been due to using too low a power of magnification.

Weise erected the genus Chilocoristes (Deutsch Ent Zeitschr. 1895, p 336) with Argopistes bistripunctata, Duvi., as the genotype It is possible that this species does really belong to a distinct genus, but without examining more material I do not wish to follow Weise, and therefore propose to retain bistripunctata in Argopistes. It may be recognised, however, that Argopistes is a very artificial genus, at least so far as the species

from our regions are concerned

216. Argopistes nigromarginatus, Jacoby.

Argoputes nigromarginatus, Jac, Ann Mus Civ Genova, XXXII, 1892, p 931.

Brown; antennæ, legs, and abdomen lighter brown; base of the head black, lateral margins of prothorax black, which colour 15

continued along the lateral and apical margins of the ely tra

Head with vertex impunctate, face strongly deflexed. Antennæ scarcely extending beyond the base of the prothorax second segment equal in length to third, fourth slightly longer; the terminal segments rather thickened Prothorax more than twice as broad as long, strongly narrowed in front, sides straight, posterior margin very rounded, sinuate at each side, surface extremely closely and finely punctate Scutclium small, trangular Elytra punctate like the pronotum, the disc also, with rows of piceous punctures. Underside, posterior tibue with a large double spur.

Length, 4套 mm

BURMA: Karen Hills, x11. (Fea)

Type (unique) in the Genon Museum.

I have not seen the type of this species The above description is adapted from the original.

217 Argopistes nigristriga, sp nov.

Body ovate General colour brown, head black; underside black, except the three apical segments of the abdomen and part of the segment in front of these, and even they are edged with black, legs brown; base of the pronotum, and basal border, sides, and sutural margins of the elytra, black, scutellum also black, the lateral black stripe on each side is not along the extreme margin, but lines the inner border of the explanate portion.

Head with vertex finely punctate; eyes large, interocular space natiow, with some punctures and two prominent pits placed in a transverse line, clypeus triangular, somewhat raised, with a sharp median line Autenum extending to a certain distance beyond the base of the pronotum, first segment long and club-shaped, about equal in length to the following three together, second thicker but haidly longer than third, fourth about equal to third, from the fifth the segments are somewhat thickened. Prothorax broader than long, sides straight but oblique, anterior and posterior lateral angles rounded and each having a setabearing pore, posterior margin sinuate on each side, and with a median lobe, surface closely and finely punctate. sharply triangular, impunctate. Eligina the side-margin of the pronotum together with that of the elytron forms one continuous curve on each side, surface closely and finely punctate, the punctures generally confused, but showing a certain tendency to form longitudinal rows Underside covered with fine brownish haus, more particularly on the legs, posterior femora enormously thickened, apical spines of posterior tibies sharp.

Length, 3 mm, breadth, 24 mm. NILGIRI HILLS (G F Hampson)

Type in the British Museum Described from seven examples.

Genus ARGOPISTOIDES, Jacoby.

As gopistoides, Jac, Ann Mus Civ Genova, xxxii, 1892, p 931

GENOTYPE, Argopistoides septempunctata, Jac

Body rounded, convex. Antennæ short, widely separated, third segment the longest and more slender, the terminal segments slightly thickened, short. Prothorax very strongly transverse, without any ante-basal furrow, the angles obtuse. Scutellum broad Elytra confusedly punctate, their epipleura very broad, continued to the apex Underside prosternum narrowly elongate; mesosternum subquadrate, broader than long, anterior coxal cavities open behind; posterior femora strongly incrassate, the corresponding tibe deeply sulcate in their apical portion and armed with a robust double-pointed spui, first segment of posterior tarsi as long as the following three segments together; claws appendiculate

Range. Burma.

218. Argopistoides septempunctata, Jacoby.

Argonistoides septempunciata, Jac., Ann Mus. Civ. Genova, xxxi, 1892, p 982.

Body ovately rounded, convex. Colour testaceous, head fulvous; the four basal segments of the antennæ light brown, the intermediate segments black, and the terminal segments obscure fulvous; sides of the breast and the extreme apex of the posterior femoia black, each elytron with seven small black spots, disposed as follows: two placed in a transverse line at the base, three similarly placed across the middle, and two placed obliquely at the apex, the punctures also are piceous.

Head rather flat; vertex impunctate, frontal tubercles scarcely raised, clypeus broad, impunctate. Antennæ extending a little beyond the base of the elytra Prothorax three times as broad as long, sides nearly straight, anterior angles obliquely thickened, posterior margin rounded at the middle; surface impunctate, with a longitudinal depression at each side Elytra minutely

punctate.

Length, 43 mm.

BURMA Karen Cheba (Fea).
Type in the Genoa Museum.

I have not seen this species. The above is adapted from the original description

Genus JACOBYANA, gen. nov.

GENOTYPE, Sphærophysa piceicollis, Jac

Body rounded, strongly convex Head rugose, antennæ short, not extending beyond the base of the pronotum, the third segment being the longest and the terminal ones broadened Prothor ax much wider than long, strongly narrowed in front, anterior angles thickened nearly as far as the middle, posterior margin sinuate on either side, its median lobe produced, no antebasal furrow Elytra very regularly punctate-striate, and somewhat pointed behind; interstices quite flat Underside anterior coxal cavities open behind; posterior femora strongly thickened, posterior tibix deeply channelled and armed with a distinct spur at the apex, mesosterium as long as the metasternum; elytral epipleura broad and slightly concave. The structure of the posterior tarsi and claws is as stated in the description of the following species, which is the genotype.

Jacoby doubtfully placed this species in the genus Sphærophysa, Baly; this latter was erected for a species from Madagascar, S. clavicornis, Baly, the type of which is in the British Museum and has been carefully examined. The Madagascar beetle is ovate in form and has the anterior coxal cavities closed behind, whereas the present Burmese insect is rounded and, according to Jacoby, has the anterior coxal cavities open behind. It has a

certain resemblance with the Sphærophysa, but differs from it in that the apical segments of the antennæ are incressate and the elytra punctate-striate.

Range. Burma.

219. Jacobyana picercollis, Jacoby

Sphærophysa piceicollis, Jac, Ann. Mus. Civ Genova, xxvii, 1889, p. 195

Body strongly convex, somewhat narrowed behind. Colour black, elytra deep chocolate-brown, antennæ yellow-brown.

Head seen from above, the vertex is hardly visible, vertex, interocular spaces, interantennal spaces and clypeus rough, very coarsely covered with pits, which are sometimes large and shallow and confluent with each other; no distinct frontal tubercles.

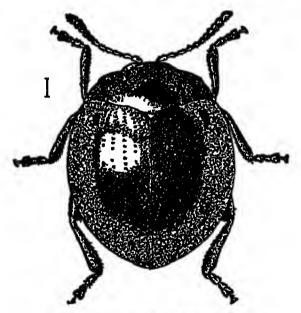


Fig 112 — Jacobyana proceedlis, Jac

Antennæ short, hardly extending beyond the base of the prothorax, the three basal segments lying in a very deep channel between the posterior margin of the eye and the outer margin of the clypeus, the six apical segments thickened; first segment long and club-shaped, second somewhat shorter but thicker than the third, which is slender, fourth shorter than third, fifth and sixth more or less nearly equal *Prothorax* much broader than long, sides obliquely and gently curved, posterior margin sinuate, with a median lobe, surface convex, finely and moderately closely punctate. *Sautellum* small, triangular. *Elytra* strongly convex, at the base very slightly broader than the prothorax, sides rounded,

narrowed in front, more so behind; regularly punctate-striate, each elytron having eleven longitudinal rows, including a short scutellar and an extreme marginal row, interstices flat Underside the whole surface, but not the legs, covered with shallow pits; anterior coxal cavities open behind, femora deeply channelled for the reception of the tibis when the insect is in repose; the tibis are not rounded but have flat or slightly depressed surfaces with sharp edges, the posterior pair have a sharp spine at the apex; first segment of posterior tarsi long; claws appendiculate.

Length, 41 mm.

BURNA Bhamo, vii 1886 (L. Fea).

Type in the Genon Museum The above description is taken from an example kindly communicated to me by Dr. Gestro.

Genus LANKA *, gen. nov.

GENOTYPE, Lanka brunnea, sp. nov.

Body oblong-ovate, small. Head as broad as prothorax; eyes moderately convex; vertex convex and continuing as a fine ridge between the bases of the autennse. Antenno only about a milimetre shorter than the body, with apical segments slightly thickened. Prothorax quadrate, convex, and sloping down steeply on each side in front, base widely rounded, sides margined, anterior and posterior angles rounded; no ante-basal furrow. Scutellum small, triangular, with apex rounded Elutra only slightly broader at base than prothorax, regularly punctate-striate, the punctures being extremely fine and placed rather far apart from each other in each row. The whole of the upper surface is otherwise perfectly smooth. Underside anterior coxal cavities open behind; prosternum moderately broad and rounded at apex; metasternum prominently elevated, each side being formed into a lobe with a rounded extremity; epipleura of elytra continuing almost up to the apex; posterior femora strongly incressate; tibim subcylindrical, not channelled; the posterior pair have the upper side more or less flattened and a sharp, small, apical spine, first segment of anterior and middle tarsi somewhat broadened (this may be a secondary sexual character), that of the posterior tars not broadened, but almost equal in length to the two following segments: claws appendiculate.

Range. Ceylon.

220. Lanka brunnea, sp nov.

Body small, oblong-ovate Colour red-brown; head, prothorax, scutellum and legs, black

Head with vertex elevated, impunctate. Antenna with first segment elongate, second smaller, third slightly longer than

second, fourth and fifth almost equal in length sixth slightly shorter but somewhat thickened, seventh to eleventh much thicker and more hairy, last segment pointed. *Prothorax* with the upper surface convex, sloping at the sides, smooth, shining, and under a high power very finely and sparsely punctate. *Scutellum* small and impunctate *Elytra* broader at base than prothorax; each elytron has eleven longitudinal lows of very fine punctures, including a long, somewhat irregular, scutellar and an extreme



Fig 113 -Lanka brunnea Maulik

marginal row; the interspace between the tenth and the extreme marginal rows is wider than the other intervals; the punctures tend to become obliterated towards the apex. *Underside* smooth, shining, impunctate, sparsely covered with fine hairs, more particularly on the abdominal sternites.

Length, 23 mm. Centon (G. Lewis)

Type in the British Museum. Described from one example.

Genus EUCYCLA, Baly.

Bucycla, Baly, Trans Ent. Soc Lond. 1876, p 439

GENOTYPE: in erecting the genus Baly described two species, the first of which, Eucycla quadripustulata, from Borneo, is here designated as the genotype

Body rounded, strongly convex. Head triangular in shape, vol. 11.

front vertical, elevated between the antenue, clypeus canellorm, raised behind, frontal tubercles transverse and contiguous. Eyes large, oblong Antenna with their bases very close together, in the males of some species they are somewhat longer than the body, but shorter in the female; first segment very long, clubshaped; the distal segments are progressively thickened towards the apex, and the last segment is compressed and elongate-orate. Prothorar much broader than long, longest along the longitudinal middle line, basal margin bisinuate on each side, with a rounded lobe in the middle; no ante-basal forrow. Scutellum triangular Elytra hardly broader than prothorix at base, regularly punctatestriate; punctures deep, interstices slightly raised. Underside: prosternum transverse; anterior coxal cavities open behind. Legs robust, posterior femora strongly incressate; dorsal side of tibie flat, concave towards the distal end. posterior tibie with a very minute spine at the apex; tara large; claws appendiculate.

Range Sumatra, Borneo, Ceylon.

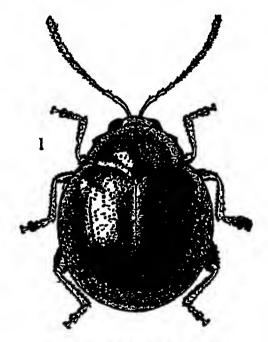


Fig. 114 - Eucycla ceylonensis, Jac.

221. Eucycla ceylonensis, Jacoby.

Eucycla ceylonensis, Jac, Proc Zool, Soc. Lond, 1887, p 87.

Body ovate, strongly convex. Head, pronotum, underside and legs, red-brown; the three basal segments of the antenna brown with the upper side piceous, the remaining segments black; pronotum with the median basal part black, the latter colour extending

faintly and narrowly along the middle to the front end, where it spreads out transversely on each side; elytra greenish-black, the suture from about the middle to the hind end narrowly, and the

extreme apices, red-brown; scutellum brown.

Head finely punctate, frontal tubercles not very strongly developed, interantennal carina present; in the interocular space there are two obliquely impressed lines meeting in the centre. Antenne extending to a little distance beyond the base of the pronotum; first segment long, curved, slender and club-shaped, equal to the following three together, second thicker and larger than third, fourth slightly shorter than third, fourth, fifth and sixth short and of about equal length; from the seventh to the eleventh the segments are thicker, more bristly and larger. Prothorax much broader than long, slightly narrowed in front, front margin straight, hind margin sinuate at each side with a rounded median lobe, sides straight but oblique, slightly margined, anterior lateral angles oblique and thickened, at each of the four lateral angles is a strongly developed base for a fine seta; surface uniformly convex, more or less closely punctate. Scutellum trungular, with sides and apex rounded, and surface smooth and impunctate. Elytra each elytron has eleven longitudinal rows of punctures, including a short scutellar and an extreme marginal row, the intervals do not appear to be quite flat, they are very minutely punctate, and that between the last row and the last but one is broader than the others; all the rows converge in pairs towards the apex, the lateral edges are slightly margined Underside covered with fine haus.

Length, 21 mm

CEYLON Bogawantalawa, 4900-5200 ft., 21 111-4 1v 1882

(G. Lewis)

Type in the British Museum. The above description is drawn up from the example marked "type"

Genus THRYLÆA, Jacoby

Thrylen, Jac, Proc Zool Soc Lond 1887, p. 98

GINOTYPE, The ylea variabilis. Jac.

Body subovate, rounded Head eyes rather large; frontal tubercles in the shape of oblique narrow ridges Protherax broader than long, anterior angles obliquely truncate, surface without any transverse ante-basal furrow. Elytra punctate-striate, their epipleura broad and continued to the apex Underside tibus not channelled dorsally, first segment of posterior tarsi as long as the two following segments together; prosternum broad, one-half longer than broad, mesosternum transverse, subquadrate, anterior coxal cavities open

Range Ceylon

308 Hallicinæ

222 Thrylma variabilis, Jacoby

Thrylea variabilis, Jac, Proc. Zool. Soc Lond 1887, p. 99

Body subovate, rounded Colour red-brown; head, the five apical segments of the antennæ, prothorax and legs, black, the tibiæ and tarsi may be more brownish than black, the six basal

segments of the antennæ are yellow-brown

Head vertex convex, impunctate, eyes large Antenna just one millimetre shorter than the length of the body, first segment elongate, club-shaped, second almost as long as, and thacker than the third, which is slender, fourth and fifth, which are equal to each other, each slightly shorter than third, sixth slightly thicker

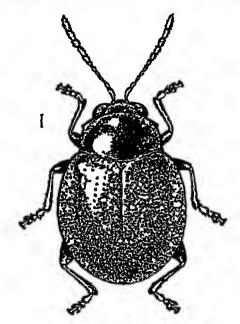


Fig 115 — Thrylea variabilis, Jac

than the preceding segments; from the seventh the segments become much larger, thicker, and opaque Prothorar broader than long, front margin straight, sides straight, anterior and posterior angles thickened, the former more so, and possessing seta-bearing pores, basal margin gently rounded, surface convex from side to side, finely and not very closely punctate, the punctures showing a tendency to arrangement in transverse rows towards the base Scutellum triangular, smooth, impunctate Elyte a hardly broader at base than prothorax, but broadened immediately belind, humerus raised, convex; each elytron has the following well-arranged rows of deep punctures a short scutellar row, terminating just before the middle of the elytron, and ten other rows at almost regular intervals; the rows converge towards the apex, counting from

the suture the sixth, seventh and eighth arise behind the humeral prominence, the tenth lies along the extreme margin, the interstices appear very slightly raised when seen at certain angles, and that between the ninth and tenth is broadest *Underside* smooth and impunctate.

Length, 3 mm, breadth, 2 mm

CEYLON Bogawantalawa, 4900-5200 ft, 21 111-4. 1v 1882 (G Lewis).

Type in the British Museum

Genus AMPHIMELOIDES, Jacoby

Amphimeloides, Jac, Proc Zool Soc Lond. 1887, p. 96

GENOTYPE. Amphimeloides doi salis, Jac.

Body ovate, convex Head · maxillary palpi long, with apical segment small, conical, pointed, the antennæ are not close together, but inserted close to the eyes, and are thickened towards the apex Protherar broader than long, convex, sides angulate in front of the middle, no transverse ante basal furiow. Elytra in egularly punctate Underside: prosternum very narrow, but distinct, anterior coxal cavities open, mesosternum emarginate; posterior femora strongly incrassate, posterior tibiæ dilated and slightly longitudinally sulcate near their apices, which are armed with a long pointed spine, the bilobed segment of the taisi is not expanded, insignificant, claw-segment strong, claws appendiculate.

The considerable space between the insertion of the antennæ is an important character of this genus, which is also distinguished

from Amphimela by the open coxal cavities

Range Ceylon

223. Amphimeloides dorsalis, Jacoby

Amphimeloides doi salis, Jac, Pioc Zool Soc Lond 1887, p 96

Colour brown, the six apical segments of the antennæ black; the metasteinum and the sides of the lower surface of the thorax, the first abdominal sternite partly, and the doisal side of the femora, piceous, scutellum and a broad longitudinal, but abbre-

viated, median band on each elytron, black.

Head. vertex smooth and impunctate, frontal elevations or interantennal carina absent, clypeus not separated from the face, which forms a flat surface; when the head is viewed from the front a short depression is visible along the inner side of the eyes, the antenne being inserted in these depressed areas. Antenna nearly half the length of the body, first segment elongate, clubshaped, second slightly shorter and thicker than the third, which is slender, fourth and fifth equal in length, from the sixth to the last the segments gradually thicken and together form an elongate club. Prothorar much broader than long, front margin emarginate, basal margin widely rounded, sides rounded; surface

convex, smooth and impunctate, without any depressions Scutellum broadly ovate, smooth and impunctate Elytra broader than prothorax, confusedly and strongly punctate Underside shining, impunctate, and glabrous.

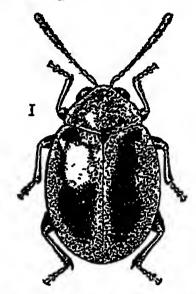


Fig 116 -Amphimeloides dorealis, Jac

Length, 2 mm.; breadth, 11 mm, length of antenna, about 1 mm

CEYLON Dikoya, 3800-4200 ft, 25-27.11 1882 (G Lewis)
Type in the British Museum

Genus PARATHRYLEA, Duvivier.

Parathrylea, Duviv, Ann Soc Ent Belg xxxvi, 1892, p 420

GENOTIFE, Parathrylea aprospennis, Duviv

Body oblong-ovate, convex, smooth Head with vertex broad and somewhat convex, frontal tubercles not very well developed, separated from the vertex by a V-shaped impression, interantennal space rather broad, the carina absent Antenna short, extending a little beyond the base of the pronotum, thickened towards the apex. Protho ar much broader than long, somewhat nairowed in front, front margin more or less nearly straight, hind margin with a median lobe, which is rounded, the margin on each side being oblique, surface somewhat convex, no ante-basal transverse furrow. Scutellum trangular, with apex broadly rounded Elyica hardly broader at base than prothorax, ovate, narrowed towards the apex, surface generally punctate Underside prosternal process narrowed in front and triangularly broadened behind, anterior coxal cavities open behind Legs long, more or less

slender; posterior femora strongly incrassate, channelled on the underside, tibiæ subcylindrical, hardly thickened towards the apex, the posterior pair with a long spine at the apex, in the male the first segment of the front and middle tarsi is broad, about as long as the following two together; first segment of posterior tarsi longer than the following two together, second segment in all the tarsi small, third bilobed but small, claw-segment long, projecting much beyond the bilobed segment, claws appendiculate

Range India

224 Parathrylea apicipennis, Duvivie.

Parathrylea apicipennis, Diviv, Ann. Soc. Ent. Belg xxxvi, 1892, p 421

Body oblong-ovate, narrowed behind Colour shining black; the four basal segments of the antennæ, the prothorax the apical part of the elytra and the three apical ventral segments of the abdomen, yellow; the front margin of the prothorax is narrowly

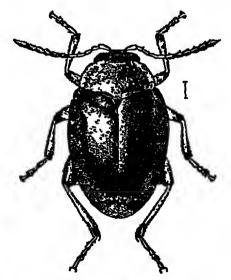


Fig 117 - Parathi ylea apicipennis, Duviv

edged with black, and the apical yellow patches of the elytra contain many black spots, irregularly placed, the elytra have a greenish tinge, the colour of the femora and tarsi and part of the mandibles varies from yellow to brown or pitch-black

Head convex at the vertex, impunctate or bearing a few fine punctures, frontal elevations not very prominent, interantennal space rather broad and with a few punctures. Antennæ short, extending a little distance beyond the base of the pronotum, from the fifth segment onwards thickened and more hairy, first segment

elongate and club shaped, second and third almost equal to each other in length, fourth slightly longer. Prothorax broader than long, narrowed in front, front margin almost straight, sides almost straight or slightly rounded, anterior and posterior angles rounded, basal margin gently sinuate on either side; surface gently convex, smooth, and closely punctate Scutellum broad, triangular, with apex rounded and surface smooth and impunctate. Elytra hardly broader at base than prothorax, humerus convex and rounded, surface closely punctate, or impunctate, or bearing a puncture here and there Underside abdominal segments with shallow, small and round impressions or punctures, particularly at the sides

Length, 3½ mm; breadth, 2 mm

DARJEELING DISTRICT Kurseong (P Bract); Darjeeling, 7000 ft, 10 viii 1909 (C Pawa, Indian Museum) UNITED PROVINCES Haldwani, Bodair, Kumaon, Sarju Valley, 5000 ft, about 46 specimens (H G. Champion).

Location of type unknown to me; Mons Severin informs me that there are no examples of this species in the Brussels Museum

Duvivier in his original description states that the pronotum and the elytra are closely punctate; but in the specimen before me in the British Museum, which was obtained from Duvivier's collection through Jacoby, I am unable to find this dense punctua-This specimen has only "Bengal" on the locality-label. At the end of his description Duvivier records "Rurseong (P Bract)," which should be taken as the type-locality before me another example from Darjeeling in which the punctures are very fine, but not obsolete to such an extent as m Duvivier's example. It may be noted that these two examples have the legs black. In other specimens the colour of the legs is brown, with the apices of their several parts generally tinged with pitch-black, and in some cases the tarsi are quite pitch-black Since there is a gradation in the density of punctuation of the pronotum and elytra and in the coloration of the legs, it is not possible to say with certainty that the two examples mentioned above belong to a distinct species; more material is necessary to establish the fact, and therefore they are retained, for the time at any rate, in P aprospennis

Genus CHABRIA, Jacoby.

Chabria, Jac., Proc Zool Soc Lond 1887, p 92

GENOTYPE, Chabria nigroplagiata, Jac

Body ovate, rounded, somewhat narrowed behind, very convex. Head broad; antennæ not contiguous, relatively widely separated, but with their bases well away from the eye-margins, filiform, slightly thickened towards the apex. Prothorax much broader than long (but not four times as broad as long, as Jacoby states), with no ante-basal transverse furrow. Scutellum triangular Elytra broader than prothorax, convex, surface smooth, seen

CHABRIA 313

under a high power to be very finely and minutely punctate Underside prosternum narrow but distinct, longer than broad, its base slightly widened and rounded, anterior coxal cavities open behind; posterior femora strongly increased, tibes not channelled on the dorsal side, the posterior pair broadened at the apex, where the dorsal side is flattened a little, and furnished beneath with a sharp spine; first segment of posterior tarsi as long as the two following together, claws appendiculate Range India, Ceylon, Burma.

Key to the Species

2 Pronotum not entirely black, each ely tron with two transverse black bands (of which the first may be brown) and an apical black patch. Pronotum entirely black, five black patches on each elytron

Ch nigroplagiata, Jac, p 314.
Ch decemplagiata, sp n, p 315.

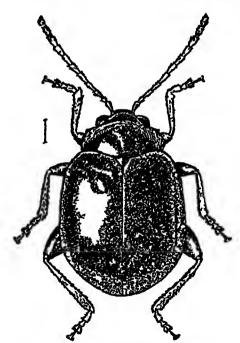


Fig 118 - Chaln ia apieico nes, Jac

225 Chabria apicicornis, Jacoby

Chabria apicicoi nis, Jac, Proc Zool Soc Loud 1887, p 93

Body ovate. Colour valying from brown to piceous, some specimens have the pionotum piceous and the rest of the body brown; in some examples the underside is piceous, while the

upper side is brown, or the insect may be entirely brown. The two or three apical segments of the antenne are usually black

Head broad, vertex convex, impunctate, frontal tubercles almost entirely absent, eyes strongly convex, interantennal space broad, bounded behind by a transverse, deeply-impressed, line, clypeus broad, hardly narrowed behind, and with a tew punctures on its Antennæ about two millimetres shorter than the length of the body, the first segment the longest, club-shaped, second much shorter but thicker than the third, which is slender, third, fourth, and fifth almost equal to each other, from the sixth onwards the segments become very slightly thicken, more harry and almost equal to each other in length, the last being obliquely pointed. Prother ax broader than long, anterior and posterior margins almost straight (the latter may be very widely arched), sides strongly rounded and narrowly margined, at the anterior angles the maigins are thickened and truncate, and on the thickened corner there is a pore containing a seta, each of the posterior angles also possesses a similar setigerous pore, surface smooth, convex and, seen under a high power, minutely and Scatellum broad, triangular, smooth and imsparsely punctate Elytra broader than prothorax, strongly convex, narrowed towards the apex, seen under a high power to be very minutely, irregularly and sparsely punctate Underside abdominal sternites, more especially at the sides, and part of the rest of the surface sparsely covered with fine hairs, appendices of the claus large and prominent

Length, 6-7 mm, breadth, 4-5 mm

CEXION Dikoya, 3800-4200 ft, Bogawantalawa, 4900-5200 ft, 21 111-4 iv 1882 (G Lewis); Halupahani, Halduminulla (many specimens in the Andrewes Collection)

Type in the British Museum

This is a variable species. There are four specimens in the British Aluseum which have the body slightly shorter and which differ from the type in one or two minor points, but I do not propose to give them a new name.

226 Chabria nigroplagiata, Jacoby.

Chabria nigroplagiata, Jac., Proc Zool Soc. Lond. 1887, p. 93

Body ovate, strongly convex, narrowed behind Underside black; tibiæ brown, tarsi piceous, upper surface yellow-brown to dark brown, with the following black markings on the pronotum, at the base and nearer the sides than the middle line, there are two ill-defined patches, which may be entirely absent, the edges of the elytra and of the pronotum are sometimes stained black, and on each elytron there are three patches first, a post-basal transverse band, which in some cases is divided into two in the middle, the inner part more or less rounded and the outer part extending in a triangular form towards the base, secondly, there

CHABRIA 315

is a post-median transverse band, which always extends in a traangular form along the suture towards the apex, and, finally, on the apical part, there is a large patch, more or less rounded or pear-shaped, the post-basal band, when not divided in the middle, is curved, and the post-median band may be more or less sinuate or straight. The scutellum is black or piceous, and the

head may or may not have a black patch

Hend vertex convex, impunctate and separated by a transverse suture from the rest of the face, frontal subercles absent tennæ nearly halt the length of the body, first segment long and club-shaped, second thicker but shorter than third, which is slender and equal to, or very slightly shorter than, either the fourth or the fifth, from the sixth onwards the segments are Prothor av much broader than long, conver, sides rounded, tront margin widely emarginate, basal margin widely arched. anterior angles thickened, and each of the anterior and posterior angles bearing a seta Scutellum broad, triangular, smooth, impunctate Elytia broader than prothorax, strongly convex, with the surface very minutely and irregularly punctate smooth, shining, abdominal sternites and some poitions of the other parts very sparsely covered with fine hans. The appendix situated on the under side of each claw is large, square and very

Length, 5½ to 6½ mm., breadth, 4-5 mm

Cexton. Bogarantaliwa, 4500-5200 ft., 21 m-1 iv 1882

(G Lewis); Nuwara Eliya, 24 iv 1914

Type in the British Museum

227 Chabria decemplagiata, sp nov

Body oblong-ovate. Colour shining black, elytia yellow-brown, with five black patches on each, disposed as follows two post-basal, lying in a transverse line, two post-inedian, similarly situated,

and one apical

Head smooth and impunctate, interantennal space broad and not depressed, vertex not separated by any deeply impressed line, maxillary palpi large, penultimate segment thickened, apical segment small, conical Antennæ about two and a halt millimetres shorter than the length of the body; first segment the longest, club-shaped, second shorter but slightly thicker than third, the latter slightly longer than the fourth, which is equal to the fifth, from the sixth onwards the segments are almost equal and more hairy, the last being small Prothonav broader than long, convex, sides strongly rounded, narrowly mangined, at the anterior angles the margin is thickened, each of the anterior and posterior angles bearing a seta, front and hind margins more or less nearly straight, surface impunctate Scutellum broad, triangular and Elytia broader than prothorax; surface impunctate. impunctate in the yellow-brown portions, through the transparency of the chitinous layer, small round spots with dark centres are visible.

Underside smooth, impunctate, abdominal sternites and parts of the other regions spaisely harry

Length, 6½ mm; breadth, 4½ mm

South India, Madura, Shembaganur (S. Matilik), Kodaikanal (T. V. Campbell, Champion Coll.) The type-specimen bears on the label no more information than "India, ex. Clavareau" (Jacoby Coll.)

Type in the British Museum Described from two examples.

Genus SPHÆRODERMA, Stephens

Sphenoderma, Stephens, Ill Brit Ent 18, 1884, p 328, Chapus, Gen Col x1, 1875, p 135, Fowler, Col Brit Islands, 18, 1890, p 378.

GENOTYPE when proposing this genus, Stephens enumerated several species, of which the first was Altica testacea, Fabr. (Syst. Ent 1775, p 114) This European form is here designated as the genuty pe.

Body hemispherical, ovate, sometimes narrowed behind subtriangular, vertex somewhat convex, eyes generally very large, in the interocular space there is either a straight impressed line or two oblique lines meeting in the centre, each of these lines often extends behind the eye, and they always form the posterior boundary of the frontal tubercles, which are not always very strongly produced, interantennal space developed into a sharp 11dge or rounded elevation; the labrum is large and may be either transverse or longer than broad, the clypeus and labrum have generally a few erect, long, and thin hairs, mouth-parts generally somewhat exserted Antennæ never very long, but reaching lengths between the base and three-quarters the length of the elytra, first segment always long and club-shaped, second about half the length of the first and thick, sometimes thicker than the third, in length the second and third are either equal or subequal, each of the following segments is somewhat longer, the fourth and fifth are sometimes equal, after the fifth, as a rule, the segments are gradually thickened and in length about equal, the last is longer and pointed Prothorar always much broader than long, somewhat narrowed in front, longest along the middle line and gradually shortened towards each side, the sides may be oblique but straight, or rounded, the anterior lateral angles sometimes produced and expanded, the posterior angles rounded, each of the four angles often bearing a fine seta, the front margin is often one wide cuive but sometimes it is sinuate, the posterior margin is always sinuate on each side, with the middle portion produced into a lobe; no ante-basal transverse furrow, surface convex and generally punctate Scutellum small, triangular, its surface always smooth and impunctate Elytia hardly broader at base than prothorax, prothorax and elytra form the hemispherical contour of the back as one continuous curve, surface always

punctate, the punctures sometimes stronger than those of the pronotum, irregular, or with a tendency to form longitudinal rows, in some cases the rows are paired, but very often there are only four pairs, the intervals being full of confused punctures; besides the larger punctures there are often very minute punctures, and along the lateral margin there is a broad space, somewhat narrowing towards the apex, and generally covered with minute punctures (though it has sometimes been referred to as an impunctate space), along the extreme margin there is always a row of strongly impressed punctures Underside prosternal process somewhat broad and elevated between the coxe, narrowed in the middle, somewhat dilated and tiuncate behind, anterior coxal cavities open behind; mesosternum reduced to a fine transverse arched carina Legs short and robust, posterior femora much thickened, thicker than the others, and channelled underneath for the reception of the tibie; tibie somewhat dilated at the extremity, which is furnished with a small spine, while their outer surface is narrowly channelled to a short distance, first segment of the tars: about as long as the following two together, third broad and bilobed and not split longitudinally along the middle, fourth terminated by two appendiculate claws

The males are distinguished by the broader anterior tibize and

by the dilated first segment of all the taisi

expanded

Range The largest number of species occurs in Asia, but some have have also been found in Europe, Africa, and America

Key to the Species				
	l Elytia dark violaceous-blue	2		
	Elytra not so coloured	3		
3	2 Larger insects (4 mm long), more ob-			
	long, colour purer and deeper vio-			
	laceous-blue, punctuation on elytra			
	irregularly arranged in closely placed,	S		
	paired rows	S geminata, Jac, p 319		
	Smaller in ects (3 mm long), more			
	rounded, colour not pure violaceous-	S. discreollis, Jac, p 319		
	blue, elytral punctures confused 8 Elytra piceous, on each elytron a large	S. Clacicollia, aac, p olo		
	yellow-brown patch	S ornatipennis, Jac , p 320.		
	Llytra not so coloured	4		
	4 Elvtra pale yellow-brown, the sutural			
	and extreme lateral margins and a			
	large spot at the middle of each			
	elytron piceous	S liplagiata, Jac, p 321		
	Elytra not so coloured	5		
	5. Large insects (51 mm long), colour			
	above shining black, anterior interal			
	angles of the pronotum strongly pro-	S acutangula, Jac, p 321.		
	duced and expanded Insects always less than 5½ mm long,			
	anterior lateral angles of the pro-			
	notum not strongly produced and			
		R		

6. Antennæ short, only reaching the base ĩ of the elvtra Antennæ extending beyond the base 9 of the elytra 7 Antennæ entuely yellow-brown S palliduornis, Jac, p 322 Antenne not entirely unicolorous 8 Colour shining black, pronotum evenly S mgrita, Jac, p 323 Colour dark brown or pitchy-brown, pronotum more punctate towards the base than towards the front and sides S bievicoinis, Jac, p 323 9 Small insects (2½ mm long), colour brown with an ill-defined blackish patch of varying extent on the apical part of the elytra . S terminata, Jac, p 324 10 No such combination of characters 10 Antennæ extending beyond half the length of the body, intermediate segments robust, slightly widened, the others more elongate, all pubescent S antennata, Jac, p 324 Antenue not so constructed 11 Large insects (5 mm long), head and pronotum deep red-brown, elytra black with the suture and lateral S var ipennis, Jac., p 325 edges very narrowly deep brown No such combination of characters 12 Small meects (21 mm long), colour ruh biown, underside somewhat darker, the three basal regments of the autenum paler brown, the rest S bu manica, Jac, p 326 No such combination of characters 13 Insects 33-43 mm long, generally piceous, elytia reddish-brown, elytral punctures surrounded by piceous S piceicollis, Jac, p 826 rings No such combination of characters 14 Small insects (23 mm long), colour shining reddish-blown, pronotum with three ill-defined patches which, if sometimes obsolescent, are still S. or rentalis, Jac, p 327 recognizable No such combination of characters 15 15 Lower portion of face strongly produced, body broadest at the base of the elytra, narrowing towards the

A translation of the description in German of Hallica fulvipennis, Illiger, which is placed in this genus, is given on p. 329, but the species has not been included in the key—Likewise Motschulsky's species are also recorded on p. 329, but not included in the key

S mandarensis, Jac, p 327.

S varipes, Jac, p 328

apex, colour shining dark reddish-

Lower portion of face not strongly produced, body ovate, strongly con-

vex, colour shining dark blown

brown.

228 Sphæroderma geminata, Jacoby.

Sphæroderma geminata, Jac, Notes Leyd Mus vi, 1884, p 36 Sphæroderma geminata, Jac, Ann Mus Civ Genova, xvvii, 1889, p 192

Subquadrate, strongly convex. Head, prothorax, scutelium, and underside shining red-blown, antennæ blown, elytra shin-

ing, pure, deep violaceous-blue

Head with vertex impunctate, but with a few minute punctures on the interocular area, the latter with a depression and a faint, transversely impressed, line, frontal tubercles and interocular carina not developed, eyes small, not as large as as usual in Spheroderma, the inner margin of each eye with a deeply impressed channel Antennæ extending to a certam distance beyond the hase of the pronotum, first segment long and club-shaped, second thicker but somewhat shorter than third, fourth about equal to third, from the fifth the segments are thickened and slightly darker. Prother aw much broader than long, sides rounded, anterior lateral angles slightly but acutely produced, posterior margin sinuate on either side, with a median lobe; suiface strongly and more or less closely punctate, the punctures towards the base somewhat finer Scutellum small, triangular, impunctate hardly broader at base than prothorax, punctate-structe the longitudinal rows arranged in pails, but the punctures in each low not regularly arranged, on each elytron there are about ten pans, while along the lateral margin is a broad, so-called impunctate. space, bounded on the extreme margin by a row of strongly impressed punctures, interstices extremely minutely punctate.

Length, 4 mm.

SUMATRA Benculen (type-locality), 1v 1891 (E Modigliani).

Type prohably in the Leyden Museum

The above description is drawn up from one example in the British Museum which bears Modigham's locality-label and the label of identification in Jacoby's handwriting. In 1889, while working out Fea's collection, Jacoby found a specimen from Bhama, Burma, which, in his opinion, agreed with the Sumatran insect, but I have not seen this specimen from Bhamo. It is, however, at least certain that the paned arrangement of the elyfial punctures occurs in species from the region under review; (whether this character should be made the basis of a new genus, it is not possible to say in the light of the material at present available). This species is, therefore, here placed in Sphanoderma and also included in the key

229 Sphæroderma discicollis, Jacoby

Sphæroderma discicollis, Jac, Ann Mus Civ Genova, xxxii, 1892, p 929

Form less oblong, more rounded Head, antennæ, underside and legs brown; pronotum red-brown, with a large ill-defined

mark, occupying its basal and central parts, piceous, the latter colour blending intimately with the red-brown; elvira dark violaceous-blue (but less pure than in the preceding species).

scutellum piceous

Head with vertex impunctate, frontal tubercles distinct, interantennal carina developed, eyes large. Antenue not extending to half the length of the elytra, first segment long and clubshaped, second somewhat larger than third, the latter about equal to the fourth, from the fifth the segments become progressively thicker. Prothorax much broader than long, sides gently rounded, narrowly margined; surface finely and spaisely punctate, the punctures being more evident on the basal part, while the front and lateral portions are almost impunctate. Scutellum triangular, smooth, impunctate. Elytra confusedly, closely and strongly punctate, along the margin is the broad, so-called impunctate, strip, which is bounded on either side by a row of punctures. Underside thinly covered with fine hairs

Length. 3 mm

BURMA Karen Hills, v-xu. 1888 (Fea)

There is one example in the British Museum with Fea's label of locality and Jacoby's label of identification, and which is marked "type," but the Genon Museum may also claim to possess the type

230 Sphæroderma ornatipennis, Jacoby

Sphæroderma ornatipennis, Jac., Mém Soc Ent Belg vii, 1900, p 124 Sphæroderma flavoplagiata, Jac., Ann Soc Ent Belg xl, 1896, p 265

Head, prothorax, underside and legs red-brown; the three basal segments of the antennæ brown, the rest black, scutellum red-brown, mixed with piceous, elytra piceous, on each elytron is a large yellow patch, generally subtriangular in shape, extending from the base to beyond the middle and much narrowing towards the side, this patch varies in extent, but in no case reaches either the sutural or the lateral margin, the line of contact between the sutural piceous area and the yellow patch may be straight or, in some cases, somewhat sinuate, wherever the yellow patch meets the piceous ground-colour of the elytron, its edge is more red-brown than piceous

Head with vertex impunctate; eyes large, frontal tubercles rather small, the transverse line of demarcation separating them from the vertex not deeply impressed, interantennal carna sharp, clypeus deflexed, its anterior edge straight. Antennæ extending to a little distance beyond the base of the pronotum; first segment long and club-shaped, second somewhat larger than third, the following segments more or less nearly equal to each other and gradually somewhat thickened. Prothorar much broader than long, sides very gently rounded with margins narrowly reflexed,

anterior lateral angles obliquely rounded, basal margin sinuate at each side as usual, its median lobe broadly rounded and produced, surface very minutely punctate, the punctures not very close together, sparser in tront. Soutellum triangular, smooth, impunctate Elytra hardly broader at base than prothorax, punctate-striate, each elytron having about eleven rows which are arranged in pairs, a broad, so-called impunctate, space extends along the lateral margin, and a row of deep punctures along the extreme margin; besides bearing the rows of punctures the whole surface is completely and confusedly covered with very fine punctures. Underside thinly covered with fine hairs.

Length, 4 mm.

BURMA: Toungoo (type-locality), Karen Mts (Doherty).

Type in the British Museum.

Jacoby first described this species in 1896, calling it flavoplagnata, but, finding that he had already used the same namefor a species of this genus from Sumatra, he changed it to ornatipennis

231 Spheroderma hiplagiata, Jacoby.

Sphærode ma biplagiata, Jac, Ann Mus Civ. Genova, xxvii, 1889, p 192

Brown, the seven apical segments of the antennæ black; elytra pale yellow-brown, the autural and extreme lateral margins and a large spot at the middle of each elytren, piceous, the dark sutural band is slightly widened at the middle, scutellum piceous;

epipleura brown, with the inner edge piceous

Head rather broad, impunctate, clypeus broad, its apex straight Antennæ extending to half the length of the body, third and fourth segments more slender and equal Prothorax nearly three times as broad as long, sides scarcely rounded, anterior lateral angles oblique, posterior margin slightly sinuate at each side, the median lobe moderately produced, surface extremely finely wrinkled, but this rugosity is only visible under a high power Elytra scarcely visibly punctate.

Length, 33 mm.

Tenasseria Kawkateik [Kawkareet] (Fea), a single specimen. Type in the Genoa Museum

232. Sphæroderma acutangula, Jacoby.

Sphæroderma acutangula, Jac, Ann. Mus. Civ Genova, xxxii, 1892, p 997

Upper side shining black, underside piceous, with the apex of the abdomen brown; legs reddish-brown, the six or seven basal segments of the antennæ brown, sometimes tinged with piceous; the head, the front edge of the margin of the pronotum, togetherwith its produced anterior lateral angles, and the extreme apex of the elytra, brown.

Head with vertex impunctate; interocular space with two deeply impressed oblique lines meeting in the centre and delimiting the flattened frontal tubercles, interantennal carma broad, clypens depressed, labrum longer than broad, clypeus and labrum with a few long white hairs Antennæ extending a little distance beyond the base of the elytra, first segment long and club-shaped, second a little thicker than third, the second and the following segments are more or less nearly equal in length Prothoram much longer than broad, somewhat narrowed in front, sides straight but oblique, with their margins somewhat explanate and reflexed. anterior lateral angles strongly produced and narrowly expanded. front margin sinuate and basal margin also sinuate at each side. as usual, surface finely and uniformly punctate Scutellum triangular, with surface smooth and impunctate. Elutra somewhat narrowed towards apex, surface closely punctate, the punctures being much stronger than those of the pronotum and generally confused, but on each elytron there are three impunctate strips, each being delimited by two series of regular punctures, while along the margin is a broad space, the surface of which is impunciate in the sense that it is not covered with the stronger punctures, but only with very fine minute punctures visible under a strong power; this space is bounded along the extreme margin by a row of strong punctures, and along its inner side by two parallel rows of strong punctures Underside sparsely covered with hairs, and punctate.

Length, 51 mm
BURMA Ruby Mines (Doherty)
Type in the British Museum

233. Sphæroderma pallidicornis, Jacoby.

Sphæroderma pallidicornis, Jac, Ann Mus Civ. Genova, xxxii, 1892, p 930

Black; antennæ and lower part of face yellow-brown, legs and

abdomen a deeper shade of brown

Head impunctate, eyes very large. Antennæ extending to the base of the elytra, with the terminal segments distinctly thickened, second and following segments equal Prothorax about two and a half times as broad as long, longer in the middle than at the sides, sides nearly straight, anterior lateral angles oblique, not thickened, surface very minutely punctate Elytra more distinctly and very closely punctate, the punctures here and there arranged in rows

Length, 21 mm

BURMA Karen Mts (Fea), a single specimen

Type in the Genoa Museum I have not seen the type

This species resembles S. abdominalis, Jac, and S. apicipennis, Baly, but differs in having the pronotum minutely punctate, the elytra very closely and rather irregularly punctate, and the legs and abdomen paler.

234. Sphæroderma nigrita, Jacoby.

Sphæroderma nignita, Jac, Ann. Mus Civ Genova, xxxii, 1892, p 926

Body subhemispherical Colour shining black; the six basal segments of the antennæ brown, the remaining segments fuscous, tarsi brown

Head coarsely punctate, frontal tubercles small, clypeus rugose Antennæ extending to the base of the pronotum, the five apical segments dilated, the third elongate and slender Prothorax three times as broad as long, narrowed in front, sides rounded, antenor angles strongly thickened and iounded, posterior margin sinuate at each side, surface finely, evenly, and not closely punctate Elytra with rather prominent shoulders, the apex somewhat pointed, each elytron with nine lows of regular punctures, the latter being close together, and the intervals very minutely punctate Underside deeply punctate; prosternum deeply and rugosely punctate

Length, 5 mm.

Burna Palon (Fea)

Type in the Genoa Museum A single specimen, which I have not seen

235 Sphæroderma brevicornis, Jacoby.

Sphæroderma brevicornis, Jac, Mém Soc. Ent Belg vii, 1900, p 124

Colour lighter brown to pitch-brown; the terminal segments of the auteunæ black, the three basal segments brown. In one variety the prothorax is reddish-brown and the elytra are pitchblack

Head impunctate; eyes large; there is a curved and strongly impressed transverse line in the interocular space, frontal tubercles distinct but not much raised. Antennæ extending to the base of the elytra, second segment thicker than third, fourth about equal to third, from the fifth the segments are gradually thickened. Prothorax strongly transverse, sides nearly straight, obliquely narrowed in front, extremely narrowly marginate, anterior angles obliquely thickened, surface very finely punctate, the parts near the front and side margins nearly impunctate. Elytra more or less strongly punctate, the punctures tending to form longitudinal rows

Length, 21-3 mm

BENGAL Barway, Mandar.
Type in the British Museum

Many small species of Sphæroderma are similarly coloured and as variable as this, but the present one has the antennæ shorter than any; while the prothorax, which in most other species has a distinct margin at the sides, is here almost entirely without it.

In other respects the species scarcely differs from S birmanica, Jac, and several others from the Eastern parts of British India, including S pallidicornis, Jac, which, however, has entirely fulvous antennes, the anterior angles of the thorax not thickened and the elytra more irregularly punctured

236 Sphæroderma terminata, Jacoby

Body convex, more or less rounded. Colour brown; an illdefined blackish patch of varying extent on the apical part of the elytra, four basal segments of the antennæ brown, the rest blackish, legs piceous in some examples. In one variety the

head, prothorax and legs are nearly black

Head with vertex impunctate, frontal tubercles small, narrowly transverse, interantennal carina well-developed. Antennæ extending to a little distance bevond the middle of the elytra, first segment long and club-shaped, second very slightly larger than third, fourth about equal to third, from the fifth the segments become progressively thicker. Prothorax much broader than long, sides rounded with narrow and reflexed margins, surface finely and not closely punctate Scutellum triangular, with apex rounded and the surface impunctate Elytra not broader at base than prothorax, closely and generally confusedly punctate, the punctures are much stronger than those on the pronotum, and are a mixture of stronger and finer kinds; the stronger punctures are arranged in longitudinal series, more on the outer part of the elytron than on the inner, and each elytron has a broad marginal impunctate space

Length, 21 mm

BURMA Karen Mts. (Fea)

An example marked "type" is in the British Museum, but the Genoa Museum may also claim to possess the type

237 Sphæroderma antennata, Jacoby.

Sphæroderma antennata Jac, Ann Mus Civ Genova, xxxii, 1892, p 925

Body very rounded and convex Colour piceous; head, the basal segments of the antennæ and the antenne tibiæ, dark brown, the eight apical segments of the antennæ and the prothorax

black, scutellum and elytra brown

Head impunctate, frontal tubercles acutely raised, narrowly transverse. Antennæ extending bevond half the length of the elytra; third segment not longer than second, the intermediate segments not robust, slightly widened, the others more elongate and all pubescent. Protherax short, strongly transverse, sides rounded and with narrow margins, anterior lateral angles scarcely

thickened and not produced, posterior margin, as usual, sinuate at the sides; surface closely and very finely punctate, the punctuation at the sides scarcely visible Elytra not more strongly punctate than prothorax, the punctures being irregular in the middle but forming four or five distinct rows at the sides, the space just within the lateral margin is nearly impunctate

Length, 33 mm

TENASSERIM mountains between Meekalan and Kyeat rivers, 11-111 1887 (Fea)

Type in the Genoa Museum, a single specimen

I have not seen the type, but the robust and thickenell antenue evidently differentiate this species from all others

238 Sphæroderma varipennis, Jacoby.

Sphæroderma van spennus, Jac., Ann. Mus Civ. Genova, xxxii, 1892, p 928

Underside, legs, head, pronotum and the four basal segments of the autenum red-brown, elytra black, the suture and the lateral adges very narrowly deeper brown, this colour expanding a little towards the aliex of the elytra, the seven apical segments of the

antennæ black, scutellum piceous

Head with vertex impunctate, two strongly impressed oblique lines, meeting in the centre, form the posterior boundary of the frontal tubercles, which are distinct but not strongly raised; each of these oblique impressed lines passes close behind the eye; interantennal carma well-deteloped Antennæ extending to a little distince beyond the base of the elytra, first segment long and club-shaped, second and third about equal in length, fourth and fifth also about equal in length, but each of them slightly longer than either the second or third, from the seventh the segments are somewhat thickened Prothorax much broader than long. sides well rounded, with slightly reflexed margins, anterior lateral angles not produced, not expanded, posterior margin sinuate at each side and with a median lobe; surface finely princtate, the punctures somewhat sparser in front and stronger and closer on the basal part Scutellum small, triangular, impunctate Elytra each elytron with four paired longitudinal rows, the third pair from the suture being somewhat irregular, the punctures generally are sparsely distributed, those between the suture and the first pair and those between the other paired rows are not regular, while, besides these, there are other much finer punctures; along the lateral maight is a broad space which contains finer nunctures only, and which is bounded on the outer margin by a row of strongly impressed punctures Underside covered with fine hairs

Length, 5 mm BURMA · Rangoon, 1887 (Fea).

Type in the Genoa Museum.

239. Sphæroderma birmanıca, Jacoby

Sphærode ma birmanica, Jac, Ann Mus Civ Genova, axxii, 1892, p 927

Upper side rich brown, underside somewhat darker, the three

basal segments of the antennæ paler brown, the rest black

Head with vertex impunctate, frontal tubercles distinct but not much raised, oblique, interantennal carina broad, clypeus deeply depressed, labrum transverse. Antennæ hardly extending to the middle of the elytra, first segment long and club-shaped, second larger than third, fourth about equal to third, from the fifth the segments become progressively larger and thicker. Protherax broader than long, sides nearly straight, narrowly margined, basal margin sinuate at each side and lobed in the middle, as usual, surface finely punctate. Scutellum triangular, with surface impunctate. Elytra more closely punctate than the prothoriax, the punctures forming longitudinal series, which, however, are too irregular to be counted; along the lateral margin is a broad space, which narrows towards the apex and is not so strongly punctate as the rest of the elytral surface, but which bears some finer and scattered punctures.

Length, 21 mm

BURMA Karen Mts., v-x11 1888 (Fea)

There is one example in the British Museum with Fea's label and marked "type," but the Genoa Museum may also claim to have the type

240 Sphæroderma picercollis, Jacoby.

Sphæroderma precicollis, Jac, Ann Mus Civ Genova, xxvii, 1889, p 191

Body rounded-ovate General colour piceous, head and the tour basal segments of the antennæ brown, the rest of the antennal segments black, maxillary palpi pale brown; scutellum dark brown; elytra reddish-brown; underside dark brown, partly

mixed with piceous

Head impunctate; eyes very large and close together, frontal tubercles distinct, oblique, clypeus with a strongly raised, acute, and rather convex ridge. Antennæ less than half the length of the body; second and third segments equal, fourth very slightly longer, the terminal segments slightly thickened. Prothorax nearly three times as broad as long, widened in the middle, sides rounded with a narrow margin, anterior lateral angles rather obtuse and somewhat oblique, posterior margin distinctly bisinuate at each side, the median lobe broadly rounded; surface evenly, finely and closely punctate. Scitcellum small. Elytra convex, rounded; surface irregularly punctate-striate, the rows being rather closely approximated and the punctures surrounded by piceous rings; a broad space along the lateral margin is nearly impunctate. Underside clothed with thin yellowish pubescence

Length, 3\frac{3}{4}-4\frac{7}{4} mm

BURMA Bhamo, vii 1886 (Fea).

Type in the Genox Museum.

241 Sphæroderma orientalis, Jacoby

Sphæroderma orientalis, Jac, Proc. Zool. Soc Lond 1887, p 92

Body convex, narrowed to wards the apex. Colour of the three basal segments of the antennæ brown, the remaining segments black; upper surface shining reddish-brown, three ill-defined blackish patches on the pronotum completely pitch-black, in some cases these patches are obsolescent, underside and legs blackish or deeper black, the last two segments of all the tarsi sometimes brownish

Head impunctate, frontal tubercles distinct, transverse, with a median longitudinal line between them and separated from the vertex by a strongly impressed transverse line in the interocular space, mouth-parts somewhat exserted, anterior edge of the clypeus straight Antennæ about half the length of the body; first segment long and club-shaped, second thicker and longer than third, third and fourth about equal; from the fifth the segments are gradually thickened Prothorax broader than long. its longitudinal median line longer than its sides, the latter straight but oblique, posterior margin sinuate at each side, with median lobe somewhat produced and rounded, surface finely punctate. Scutellum small, trungular, impunctate Elytra not broader at base than prothorax, the humerus not very prominent, surface punctate, the punctures being semi-regularly arranged in longitudinal series and stronger than those on the pronotum. Underande prosternal process longer than broad, elytral epipleura broad, extending nearly to the apex

Length 21 mm

CEYLON Dikoya (to pe-locality), 3800 ft -4200 ft, 6. xii 1881 - 16 i 1882 (G. Lewis), Galle (G. Lewis)

Type in the British Museum

242 Sphæroderma mandarensis, Jacoby.

Sphæroderma mandarensis, Juc, Mem Soc Ent Belg vii, 1900, p 123

Body convex, broadest at the base of the elytra, which narrow towards the apex Colour shining piecous or dark reddish-brown; the five or six basal segments of the antennæ and the legs brown, the four or five apical segments of the antennæ blackish, the extreme margins of the abdominal segments lighter brown.

Head with vertex impunctate, frontal elevations transverse, oblique, separated from the vertex by two deeply impressed lines, which meet in the middle; lower portion of the face strongly produced and narrow, interantennal carina well-developed. An tennæ extending to a little distance beyond the base of the elytra:

first segment elongate and club-shaped, the following two segments shorter and equal, fourth and fifth somewhat shorter still and equal, sixth to eleventh dilated and subquadrate, the last more or less elongate-ovate Prothorar about two and a half tames as broad as long, not much marrowed in front, sides rounded, with very narrow reflexed margins, anterior lateral angles thickened, posterior margin bisinuato, surface very closely and finely punctate, the lateral parts a little more distantly so tellum very small, trangular, impunctate Elytra strongly convex. closely punctate, with more or less distinct longitudinal series amidst confused punctures; these series occur more on the outer half of each elytron than on the niner, while along the extreme margin is a deeply impressed series, which forms the outer border of a broad implinitate lateral space, the elytral punctuation is composed of a mixture of stronger and finer punctures. Under ade finely pubescent

Length, 3-32 min
BENGAL Mandar
Type in the British Museum

243 Sphæroderma varipes, Jacoby

Sphæroderma var spes, Jac, Ann Mus Civ Genova, vxvn, 1889, p 193
Eucycla varspes, Jac, Notes Leyd Mus v1, 1884, p 210

Body ovate, strongly convex Colour shining dark brown, the four or five apical segments of the antennæ and the breast are pitch-black. In one variety the prothorax and elytra are nearly black.

Head with vertex impunctate, eyes large, frontal tubercles distinct but not much raised, separated from the vertex by two oblique impressed lines, which neet in the middle, interantenual carina well developed. Antenna extending to a little distance beyond the base of the promotum, first segment long and clubshaped, second about equal in length to, but thicker than, third, from the third to the seventh the segments are comparatively thinner and about equal in length, eighth to eleventh thickened Prothorax much broader than long, somewhat marrowed in front, sides very slightly rounded, with natrow margins, anterior lateral angles thickened, in some cases more produced than in others (this difference was regarded by Jacoby as a secondary sexual character), each of the four angles bearing a fine seta, posterior maigin sinuate at each side, with a lobe in the middle surface closely and uniformly punctate Scatellum small, triangular, inpunctate Elyte a not broader at base than prothorax, each elytron has three longitudinal impunctate spaces on the disc, converging towards the apex, each space being enclosed between two regular rows of punctures, the areas between these spaces, and that between the suture and the first space, are more or less confusedly and closely punctate; while along the lateral margin there is a

broad impunctate space, bounded on the extreme margin by a row of punctures and on the inner side by two longitudinal series of punctures, themselves enclosing a narrower impunctate interval, the punctures are in some specimens surrounded by dark rings, besides these large punctures there are very minute and sparsely distributed punctures, visible under a high power, on the whole surface *Underside* thinly covered with fine hairs

Length, 41 mm

BURMA Teilizo, v 1886 (Fea), Bhaillo, vi 1886 (Fea), Karen Mts, v-xii 1888 (Fea). Assam Khasi Hills

Type in the Genoa Museum

244 Sphæroderma fulvipennis, Illiger.

Haltica fulmpennis Illig, Mag Insektenhunde, vi, 1807, p 156

Almost of the form of a Cuphon, ovate, somewhat convex, very shining, the legs and underside with the usual short adpressed hairs, black, the first two segments of the antenna, the mouth, the under-ide of the prothorax, and the breast brownish, the scutellum brown, the elytra oak coloured or brownish-yellow Between the roots of the antennæ is an elevation in the form of a keel, and over this is a median longitudinal impressed line meeting with two obliquely impressed lines—The head is narrower than the prothorax, the latter is nairower than the elytra, nearly twice as broad as long, somewhat nairowed in front, with front maigin widely emarginate, posterior maigin also widely emarginate, sides rounded, lateral margins with a channel, hind angles somewhat bluntly produced, the round edge of each side is brown, the front angles thickened and broadened, upper side transversely convex, smooth and impunctate. The elytra are very finely punctate, towards the apex smooth and impunctate

Length, 1s lin [about 3s mm] breadth, 1s lin [about 25 mm]

BENGAL (Daldorff)

I am unaware of the location of the type of this species The above is taken from the original description in German

In the 'Bulletin of the Imperial Society of Naturalists of Moscow,' xxxix, 1866, part 1, no 2, pp 420-422, Motschulsky described the following species from the regions under review—
(1) Sphæroderma viridipennis (Nuwara Eliva, Ceylon), (2) Sphæroderma orbiculata ("East India"), (3) Sphæroderma gracilenta (Nuwara Eliya, Ceylon), (4) Sphæroderma fulva ("Continental India"), (5) Sphæroderma rufopicta (Nuwara Eliya, Ceylon)

No (1) was placed in Geniminger and Harold's 'Catalogue of Coleoptera,' vol xii (Munich, 1876), in the genus Nisotra No (2) is described by comparing it with Sph javana, Motsch (Java), which is again compared with Sph indica, F. (described, despite its name, from the Cape of Good Hope), No (3) is described by comparing it with Sph testacea, F (Europe). No (4) by

comparing it with Sph gracilenta, Motsch, and No. (5) by com-

paring it with the European Sph. testacea, F

Although I have no means of examining the species described by Motschulsky, I cannot entirely ignore them. They are, therefore, enumerated here without being incorporated in the generic key or in the body of this work.

Genus IVALIA, Jacoby.

Ivaha, Jac, Proc. Zool Soc Lond 1887, p 100

GENOTYPE. Three species were described when this genus was erected, and the first of these, *Ivalia viridipennis*, Jac., is here designated as the genotype.

Body ovate, very convex Head broad, with vertex smooth and convex, frontal tubercles and interantennal carina obsolete, bases of antennæ not very close together, but remote from the evemargiu. Autenum short, hardly extending beyond the base of the pronotum, usually with the seven apical segments thickened Prothorax broader than long, uniformly convex and smooth above, without any impression at all. Scutellum small, insignificant Elytra not broader at the base than the prothorax, confusedly and Underside - prosternal process narrowly elonclosely punctate gate, anterior coxal cavities open behind; mesosternum transverse, front and middle legs much shorter than the hind ones, posterior temora strongly incrassute, posterior tibiæ much longer than either the front or middle tibie, somewhat broadened at the apex, the outer edge furnished with a series of spinules, the apex with a long curved spine, the upper surface not deeply channelled (as Jacoby erroneously states; the channelled appearance is an optical illusion), posterior tarsi long, with first segment equal to the following two together, second segment small, third, i.e. the bilobed segment, also small, claw-segment long, somewhat thickened at the apex, projecting much beyond the bilobed segment, clave appendiculate.

Range Ceylon

Key to the Species

Elytra metallic green
Elytra metallic purplish or cupreous
Elytra dark brown

I vn idipennis, Jac, p 880 I metallica, Jac, p 881. I fulvipennis, Jac, p 882

245 Ivalia viridipennis, Jacoby.

Ivalia wredipennes, Jac, Proc Zool Soc Lond 1887, p 100

Body ovate, pointed towards the apex General colour rich brown, elvtra metallic green, seven apical segments of antennæ black, three basal brownish, fourth piceous, the rich brown colour may be reddish-brown. Out of five specimens before me, two,

IVALIA 331

which me somewhat larger, presumably temales, have the extreme

apices of the elytra brown Scutellum pitch-brown

Head brown, with vertex impunctate, interocular space with a faintly impressed V-shaped mink. Antenuæ extending a little distance beyond the base of the pronotum; flist segment large and club-shaped, second thicker but not longer than third, fourthabout equal in length to fith, from thence the segments are gradually thickened and more hairy, forming an elongated club Prothocar broader than long, convex, from margin straight, posterior margin widely arched, sides more or less straight, anterior lateral angles thickened and oblique, posterior rounded surface very finely and not very closely punctate. Scutellium triangular, broader than long, smooth and impunctate. Eligical confusedly and strongly punctate the punctures being much stronger than those on the pronotum.

In the smaller specimens, presumably males, the posterior tibre have the spinules on their outer edges more marked than in the larger examples, but in both sexes the tibra is somewhat bent and the outer edge of the apical curved end bears a series of minute spinules. In the males the front and middle tarsi are somewhat

larger

Length of 2, 21 mm; of 3, 2 mm.

CENLON Bogawantalawa, 4900-5200 ft, 21 111-4 1v 1882 (G. Lewis), Dikoya, 3800-4200 ft, 6 x11 1881-16 1 1882 (G. Lewis)

Type in the British Museum

246. Ivalia metallica, Jacoby

Ivalia metallica, Jac, Proc. Zool Soc Lond 1887, p 100

In the shape of the body, in the pointed apical end of the elytra, and in other structural characters generally this species resembles I viridipennis, Jac, but the coloration is different. The four basal segments of the intennæ are brown, the underside and legs pitch-black, the seven apical segments of the antennæ black; pronotum metallic blue-green; elytra metallic

purplish or cupreous, scutellum black

Head with vertex impunctate, frontal tubercles obsolete, with a V-shaped impression on the interocular space and an oblique impressed line on each side behind the eye. Antennæ extending only a little behind the base of the pronotum, first segment long and club-shaped, second thicker but not longer than third, fourth shorter than third and about equal in length to fifth, after this the segments are gradually thickened, forming an elongate clip. Prothorar broader than long sides straight, anterior lateral angles thickened, surface convex, finely and not very closely punctate, besides this punctuation the whole surface, seen under a high power, shows fine granulation. Scutellum triangular, broader than long, its surface smooth and impunctate.

Elytra closely, strongly and confusedly punctate, the punctures being stronger than those on the pronotum. Underside posterior tibize somewhat bent, much longer than those of the front and middle legs, along their outer edge the spinules are larger and not close together, but near the apex they are smaller and much closer together, the apical spine is very long, first segment of the posterior tarsi longer than the following two together

Length, 24 mm.

CENTION Bogawantalawa, 4900-5200 ft, 21 m-4. iv 1882 (G Lewis)

Type in the British Museum

247. Ivalia fulvipennis, Jacoby.

Ivalia fulvipennis, Jac, Proc Zool, Soc Lond 1887, p 101

Body strongly convex, narrowed towards the apex, but not so pointed as in *I wridipennis* or *I metallica*. Head, prothorax, scutellum, underside and femora pitch-black, the seven spical segments of the antennæ black, their four basal segments, the

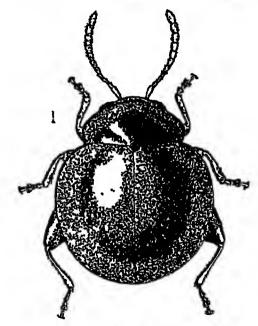


Fig. 119 .- Ivalia fulvipennis, Jac.

tibise, and tarsi dark brown, but not so deep a shade as the

underside, elytra dark reddish-brown

Head broader than long, vertex impunctate except for a few extremely fine scattered punctures which are only visible under a high power, frontal tubercles and carina absent. Antennæ extending slightly beyond the base of the pronotum; first segment

long and club-shaped, second thicker but shorter than third. fourth shorter than third, from the fifth the segments are thicker Prothorax much broader than long, sides straight, anterior lateral angles thickened, basal margin forming a very wide arch, almost straight, surface convex, smooth, shining, seen under a high power to be extremely minutely and sparsely punctate Scutellum broader than long, triangular, with apex broadly rounded, surface smooth, impunctate Elytia closely, strongly, and confusedly punctate Underside posterior tibiæ much longer than those of the front and middle legs, somewhat bent, their outer edge with a series of spinules, which are smaller and closer together near the apical end than in the more proximal parts; first segment of posterior tarsi somewhat longer than the following two together

Length, 24 mm

Bogawantalawa, 4900-5200 ft, 21. m-4 w 1882 CEYLON (G Lewis).

Type in the British Museum.

Genus LONGITARSUS, Latreille.

Longitar sus, Lati, Cuvier's Règn Anim 2 ed v, 1829*, p 155, Chaputs, Gen Col x1, 1875, p 69, Fowler, Col Brit Isl 1v, 1890, n 335

Temodactula, Cheviolat, in d'Orbigny, Diet univers, d'Hist Nat [original edition †] All, 1848, p 440
Temodactula (sic), Motschulsky, Bull Soc Nat. Mosc. xxxix, 1866, part 1, no 2, pp 416-418

Thyames, Stephens, Illustr Brit Ent iv, 1831, p 307

GENOTYPE Chrysomelu atrıcılla, Linn (Fauna Suec 1761, p 166, Europe). In proposing the genus, Latreille cited several species, from amongst which I select this species as the genotype

This genus is very large and includes a great variety of forms. But in spite of this diversity the following characters are constant in the genus the insects are generally small, the antennæ are fairly long and slender, extending to beyond the middle of the elytra, or even exceeding the length of the insect; the posterior femoin are well thickened, the posterior tibie are long, gradually broadened, and flat above towards the apex, which ends in a distinct, well-developed and sharp spine, the portion of the hind tibiæ which is gradually broadened is not channelled on the outer surface, although in some cases it may appear so owing to the edges being dark, the internal edge has a finge of fine hairs and the outer has equally a tringe and a series of spinules, more

^{*} Chaputs, Scudder, and Agassiz quote Latreille's 'Families Naturelles du Regne animal' (Paris, 1825, p 405) as the work in which this genus was first published, but, although the genus is first mentioned there, it was not until 1829, in Cuviers 'Regne animal,' that a description (with the citation of several species) of Longitarsus appeared † Not the new edition, which is differently paginated

334 HALTICINA

numerous near the apex, gradually becoming smaller and finally disappearing as the proximal end of the tibia (which is sometimes slightly curved) is approached; the posterior tarsi are long, often as long as the corresponding tibiae, and the first segment should be always as long as half the tibia. There are species (mostly African) in which the length of the first segment of the hind tarsus is such that it becomes a matter of difficulty to determine exactly whether the species belongs to this genus or not. Although no such doubtful species have, so far, been found in our regions, it may be mentioned that Jacoby described, at long intervals, one and the same species as Longitaisus kanarensis and Aphthona kanarensis. These remarks are made in order to draw attention to the fact that the character on which the genus is founded is by itself not definitive, and that there exist transitional cases

Head with vertex almost always impunctate, frontal elevations often obsolete and, when present, never very strongly developed. interautenual carina varying in length, height, and sharpness, mouth-parts somewhat exserted, sometimes there are well-impressed oblique channels in front, which extend tangentially to the upper margins of the eyes and meet at a point in the middle, eyes always well developed and black Basal segment of antenne always long and club-shaped, second small and very often thicker than third; the relative lengths of the second to fourth segments valv and can be made use of in separating species; the following segments are more or less equal in length, sometimes the two or three apical segments are shorter, and the last is always pointed Prothorar always broader than long, although not very much so, sides straight or rounded, each of the anterior and posterior lateral angles bearing a long fine seta (figs 120, 123), when the seta is not visible, it has probably been accidentally broken off, but a little elevated pore always indicates its position, often the edge at the anterior angles is obliquely truncate and somewhat thickened, surface gently convex, often punctate, sometimes indistinctly so and sometimes impuhctate, in many cases the punctures are finer than those on Scutellum small, triungular, with apex very often rounded, and with surface smooth and impunctate Elutia the relation of the breadth of the bases of elytra and prothorax varies within a small range, their surface is punctate, often indistinctly and confusedly, sometimes comparatively more strongly, and the punctures in some cases tend to arrange themselves in longitudinal ions Hind wings absent in some Underside anterior coxal cavities open behind, legs more or less slender, the front and middle pairs similar but the hind pair different, the structure of these latter is described above, tais often slender, the bilobed segment not very broad, the claw-segment projecting beyond the bilohed segment; claus well formed, abdominal sternites almost always sparsely covered with fine hairs

Range World-wide

Key to the Species.

	•	
1	Elytra shining blue	L cyanipennis, Bryant,
_	Elytra shining black .	2 [p 387]
	Elytra differently coloured	6
O	Head, pronotum and underside brown,	•
Z	mend, pronount and anderside brown,	
	posterior femora shining brownish-black,	
	elytra shining black, very regularly	[р 388
	punctate-striate .	L. nigripennis, Motsch,
	Head and pronotum black like the elytra,	
	the latter not regularly punctate-striate	3
Я	Large insects (3\frac{1}{2} nim long and about 2 mm	_
v	bioad), body narrowing somewhat be-	
	hand the measurement about done and then	
	hind the prominent shoulders and then	
	broadening again to a certain extent	L krishna.sp n,p 840
	Insects always smaller than the above	
	dimensions, outline of body a uniform	
	curve, gently narrowing towards the	
	spex, without the constriction in the	
	middle described above	4
A	Elytral punctures feeble, interstitial spaces	-
**		T 047
	finely reticulate	L singhala, sp n, p 341
	Elytial punctures bold and distinct, inter-	
	stitial spaces smooth, shining, not finely	_
	reticulate .	5
-5	Larger insects (3 mm long), third seg-	
	ment of antennæ distinctly longer than	
	second	L almoræ, sp n., p. 842
	Small insects (about 13 mm long), third	
	segment of antennæ about equal to	
	second .	T. letter on n n 940
6	Colour of the greater part of the disc of	L lewis, sp. n, p 342
•	the elytra smoky, hind wings absent	7
		7.
	No such combination of characters	8
	. Each elytron with a longitudinal ridge	
	extending from the humerus	L. uratus, sp n, p 348
_	Elytron with no such ridge	L fumidus, sp n,
8	Colour brown, a round spot on the elytra,	_ [p 344
	their apex, and the suture behind black	L nigronotatus, Jac,
	Body with no such markings	9 [p 344
9	Suture stained distinctly darker than the	L
	colour of the elytra#	10
	Suture not so stained	15
10	Each elytron with a longitudinal black	_ [p 845
	atripe	To strengton on a
	Elytra with no such stripe	L strigatus, sp n,
11	Head, underside, suture very narrowly,	**
**	scutellum and apex of femora black,	
	fourth corment of enterne distance.	F 5.00
	fourth segment of antennæ distinctly	[p 345
	longer than third	L birmanicus, Jac.
16	No such combination of characters	12
12	2. There are a few distinct punctures across	M
	the interocular space	13
	Interocular space without such punctures	14.
-		

^{*} This section does not include Motschulsky's species sutura-nigra and suturellus, see pages 359, 360

18	Upper side light brown, underside not	_ [р 346
	piceous	L ranguonensis, Jac,
14	Upper side dark blown, underside piceous	L madus ensis, Jac,
14		Lp 847
	the elytra close and arranged with some regularity in longitudinal rows	L hina, sp n, p 347
	Larger msects (21 mm long), punctures on	р 348
	the elytra confused	L belgaumensis, Jac,
15	Punctures on the elytra bold, deep and	10
	large	16.
	Punctures on the elytra distinctly fine or almost obsole-cent	21
16	Large insects (24 or nearly 3 mm long),	21
	elytial punctures confused	L gavira, sp n, p 349
	Smaller insects, elytral punctures arranged	- yadda yap 2, p 048
	to a certain extent in close longitudinal	
	rows	17.
17.	Body completely piceous, with antenna	
	and legs (except the posterior femora)	
	brown	L malina, sp n, p 349.
70	Body not so coloured	18
19	Colour light brown	L sare, sp. n, p 350
10	Colour entirely dark red-brown, second	19
10	segment of the antennæ shorter than	
	third	L puncti, sp. n , p 350.
	Colour not entirely dark brown, second	- passes, spin, p out
	segment of antennes about equal to third	20
20	Colour dark red-brown but the apices of	
	the posterior femora are black, pronotum	
	and elytra concolorous	L tavoya, sp n, p 35
	Colour dark red-brown, with pronotum	T 11.
07	blackish, apices of femora not black	L lohita, sp n., p 352
21	Body always broad and large (8-34 mm	
	long and 2 mm broad), colour always brownish-yellow or pale brown	22
	No such combination of characters Body	22
	always smaller colour generally dark	
	brown, but sometimes paler .	28
22	Elytra apparently impunctate (seen under	
	a low power, about 10 diameters),	
	scutellum black, sides of prothorax	[p 852
	straight	L. recticollis, Jac,
	Elytra (seen under a lens magnifying 10 diameters) finely and closely punctate,	
	scutellum not black, sides of prothorax	
	rounded	L gola, sp n, p 353
23	Antenne with the four apical and three	g,,,
	basal segments light brown and the	
	four intermediate segments darker, the	
	colours contrasting, second segment	[p 353
	somewhat longer than third	L ochracescornis, sp n,
04	No such combination of characters	24 [p 354.
24		L longicornis, Jac, 25
OF	Antenna not longer than the body General body-colour red or red-brown	26
25	General body-colour not red-brown	27
	manage and break manages and according	

26 Legs black, except the bases of the femora and posterior tibies, anteune black, [p 355. except the two basal segments L sufipennis, Jac. Legs not black but brown except the apreal half of the posterior femola, which is black, antennæ generally brown, but sometimes the six or seven apical seg-[p 356. ments are somewhat darker L. sunda a, sp n, winged, parallel-sided, general colour pale brown, elytra indistinctly [p 357. L pandura, sp n, punctate Body wingless, not parallel-sided, elytra minutely but distinctly punctate 28 28 Colour dark brown, clypeus and apices of the posterioi femora black, colour of apicul segments of antennæ darker than Гр. 358. that of basal segments L. championi, sp n,

Colour a light dirty brown, clypeus not black, basal and apical segments of antennæ concolorous

Lanu, sp n, p 359

Eight of Motschulsky's species are enumerated on pp 359-361, but are not included in this key.

248 Longitarsus cyanipennis, Bryant.

Longitai sus cyanipennis, Bryant, Ann & Mag Nat Hist. (9) xiv, 1924, p 249

Body oblong, colour of elytra blue, head, prothorax, and scutellium blue-black, underside black, apex of first segment, and second and third segments, of antennæ brownish mixed with piceous, basal portion of first segment piceous, rest of the antennal segments black, legs dark piceous, with the femora of a

deeper shade, red-blown at the points of articulation

Head gently convey, with vertex impunctate, frontal tubercles absent, interantennal carma not sharp; vertex delimited by two oblique impressions running above the eyes and converging towards the middle, eyes not so convex as in other species; clypeus somewhat convex and with a few scattered whitish hairs. Antenna in the male extending to the apex of the elytra and in the female somewhat shorter, first segment long and club-shaped, second much shorter, third longer than second but shorter than fourth, the rest of the segments more or less nearly equal to each other, gradually somewhat thickened and more harry, the last pointed. Prothorax slightly broader than long, sides rounded, the four corners rounded and each with a distinct long seta, surface gently convex, finely and sparsely punctate, the punctures being more sparse in front than towards the base Soutellum sharply triangular, broader than long, impunctate Elutra broader at base than prothorax, somewhat broadened at the middle and then slightly narrowing, surface strongly and confusedly punctate, the punctures being much stronger than those of the pronotum YOL, II.

Under side sparsely covered with whitish hairs. The posterior tibia in the female specimen from Lahul is without the apical spine; in the male the spine is present, but not prominent in the type-specimen. First segment of posterior tarsi about half the length of the corresponding tibia and about equal to the following segments together.

Length of male, 21 mm, of female, 3 mm.

PUNJAB. Lahul * (type-locality), 19 viii 1922 (O H. Walters). UNITED PROVINCES Kumaon, Sarju Valley, 5000 ft, Almora, 7000-9000 ft., vi. 1917; Naini Tal, vii. 1923 (all H. G Champion) DARJELLING Gopaldhara (Stevens).

Type in the British Museum

249 .- Longitarsus nigripennis, Motschuleky.

Temodactila migripennis, Motsch, Bull Soc Nat Mosc xxxix, 1866, part 1, no 2, p 418

The species described below is assumed to be the same as Motschulsky's L nigripennis, because it agrees with his description of the coloration and, so far, this is the only species before me which has this particular combination of colours. The following is a translation of Motschulsky's original description in French, which appears immediately after his description of Longitarsus undulatoritatus from Ceylon (see p. 361) —

"A closely related but smaller species from the continent of India, T nigripennis, Motsch, is very remarkable for its coloration, having the head and pronotum testaceous and the elytra

black "

I have adopted this name because Dr G A K Marshall has already applied it to this particular insect from South India, where it is a pest of cultivated plants, and also because it has already been used in this connexion in current literature

Body oblong, broad Head, antennæ, prothorax, underside and legs brown. elytra shining black posterior femora shining brownish-black, underside of a deeper shade of brown; antennæ

and legs of a lighter shade; scutellum dark brown

Head with vertex impunctate, frontal tubercles not prominent, interantennal space raised and with a sharp central longitudinal ridge, which is continued to the wedge-shaped clypeus. Antennæ extending to about the middle of the elytra, first segment long and club-shaped, second shorter, third longer and chinner than second, fourth slightly shorter than third, fifth to eighth more or less nearly equal, ninth, tenth and eleventh somewhat shorter and slightly thickened. Prothorax broader than long, posterior margin with a not very strong lobe in the middle, anterior lateral angles oblique, sides straight, the fine setse long and prominent, at least at the posterior lateral angles in the two specimens before me; surface somewhat convex almost impunctate but for a few

^{*} A locality in the hills, in the Jullundur [Jalandhar] Division.

very fine indistinct punctures here and there Scutellum triangular, apex broadly rounded, surface smooth and impunctate
Elytra broader at base than prothorax, very regularly punctatestriate, each elytron having eleven longitudinal rows, including a
short sutural and an extreme marginal row, the punctures in the
rows are very fine and not strongly impressed (although towards
the base they are comparatively more so than towards the apex,
where they are obsolescent), and in each row they are not placed
very close to each other, interstices flat and smooth, the interval
between the last row and the last but one broader than the others;

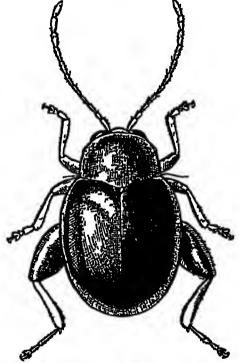


Fig 120 -Longitarsus nigripennis, Motsch

lateral margins somewhat pronounced *Underside* elytral epipleura broad and the same breadth throughout, terminating just before reaching the apex, abdominal sternites with a few scattered whitish hairs at the sides, posterior tibies short, gradually broadened towards the apex, terminating there with a sharp and curved spine, and with the rounded ventral side thickly covered with bristly hairs, more thickly towards the distal end; the outer lateral edges of the hind tibies are without the series of short spinules which is usual in *Longitarsus*, the inner and outer lateral edges equally set with bristly hairs, first segment of the posterior tarsi more than half the length of the corresponding tibia, while the whole tarsus equals the length of the tibia.

Length, 2½ mm.; breadth, 1½ mm.

South India Malabar District, Taliparamba, 30. 1x-4. x. 1917 (Ramakrishna)

The location of Motschulsky's type is unknown to me.

The above description is taken from the two specimens in the British Museum from the above locality, they were sent by Mr. T. V Ramakrishna Ayyar to the Imperial Bureau of Entomology, where the insect was determined by Dr G A K. Marshall from Motschulsky's description For notes on life-history see p. 101.

In that this insect possesses punctate-striate elytra, the strict being placed at regular intervals, and that the outer edge of the posterior tibies is without a series of spinules, it differs from the general type of the species of *Longitureus* and may in the future become the basis of a new genus

250 Longitarsus krishna *, sp nov.

Body oblong, elytra somewhat constructed behind the humerus and then broadened again behind Colour shining black, antennæ piceous, legs red-brown, posterior femora and abdominal sternites of a much darker shade of red-brown

Head with vertex impunctate, frontal tubercles well developed. bases of the antennæ globular and very close together, interantennal carina sharp, clypeus raised, eyes strongly convex. Antennæ slender, extending to a little distance beyond the middle of the elytra; first segment long and club-shaped, second small and thickened, third longer than second, almost equal to, or very slightly shorter than, fourth, the following segments about equal and more harry. Prothorax somewhat broader than long, very slightly narrowed behind, sides straight, anterior lateral angles oblique, posterior rounded, the setæ at these four corners clearly visible; surface punctate, the punctures being more crowded towards the base than in front, where they are very sparse Scutellum triangular, with apex broadly rounded and with surface smooth and impunctate. Elytra much broader at base than piothorax, humerus rounded; surface confusedly punctate, the punctures being much coarser than those of the pronotum, while in the middle they tend to form longitudinal rows. Underside legs slender, sparsely covered with fine whitish hairs, abdominal sternites also covered with similar hairs, more particularly the apical segments; posterior tibis very long, somewhat expanded at the apex, with the usual row of small spines as well as fine hairs on the outer margin, apical spine prominent; first segment of posterior tarsi equal to about half the length of the posterior tibia, while the whole tarsus almost equals the tibia.

Length, 31 mm.; breadth behind, nearly 2 mm

Burma: Ruby Mines (Doherty) Assam Manipur, twoexamples (Doherty)

Type in the British Museum Described from three examples.

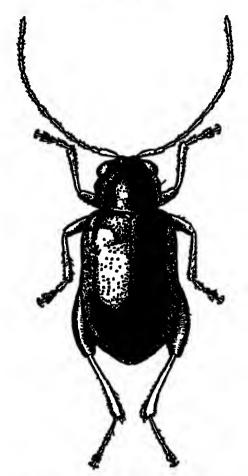


Fig 121 -Longitarsus Lrishna, Maulik

251. Longitarsus singhala *, ap nov.

Body oblong. Colour of upper side, underside, and femora of all the legs, shining black, the antennæ and all the tibiæ and

tarsi, light brown.

Head with vertex impunctate, frontal elevations and interantennal ridge developed. Antennæ about as long as the body; first segment long and club-shaped, second shorter than first, thicker than, and about equal in length to, third, fourth distinctly longer than third, the following segments longer and more or less nearly equal to each other Prothorax broader than long, sides very gently rounded, anterior angles oblique; surface, seen under a high power, extremely finely and sparsely punctate, the punctures more numerous towards the base than in front; the whole interstitial surface is not perfectly smooth and shining.

^{*} Sanskrit name for Ceylon

but shows a fine reticulation Scutclium small, triangular, with apex broadly rounded, surface smooth and impunctate. Elytra broader at base than prothorax, humerus prominent, sides gradually narrowing towards apex, surface confusedly punctate, some punctures at the base tending to arrange themselves in a longitudinal line, interstitual spaces finely reticulate Underside smooth, shining, abdominal sternites thinly covered with fine hairs, first segment of posterior tarsi about half the length of the corresponding tibia

Length, 2 mm

CEYLON. Galle, on coast-level, 27. x1-4 x11. 1881 (G Lews). Type in the British Museum. Described from one example

252 Longitarsus almoræ, sp. nov

Body oblong Colour black; antennæ, anterior and middle legs and posterior tibiæ brown, the posterior tibiæ of a deeper shade

Head with vertex impunctate, with two oblique deeply impre-sed channels delimiting the front border of the vertex and meeting in the middle, on each side, situated in the deep channel, is a shallow pit; frontal elevations oblique, interantennal ridge sharply elevated and extending to the clypeus Antenna as long as the body, first segment long and club-shaped, second shorter than the first, thicker and also somewhat shorter than third, fourth very slightly longer than third, the rest of the segments elongate and more or less nearly equal Prothorar broader than long, sides gently rounded, anterior lateral angles oblique, posterior angles each with a prominent fine seta, surface gently convex, distinctly punctate, the punctures being irregularly distributed; comparatively closer towards the base and becoming more and more sparse towards the front margin Scutellum small, triangular, with apex broadly rounded, surface smooth and impunctate Elytia broader at base than prothorax, sides more or less nearly parallel, but the elytra narrow somewhat towards the apex, surface comparatively strongly and confusedly punctate, interstices smooth, shining, not reticulate. Underside abdominal sterinites sparsely covered with thin hans, posterior tibus with a spine at the apex and a series of spinules on the outer edge, first segment of the posterior tarsi half the length of the corresponding tibia

Length, 3 mm.

UNITED PROVINCES. Kumaon, W Almoia (H G Champion). Type in the British Museum Described from one example

253 Longitarsus lewisi, sp. nov.

Body oblong. Colour black, front and middle legs dark brown, the three basal segments of the antennæ and the posterior taisi lighter brown, the rest of the antennal segments darker brown

Head with vertex convex, impunctate, frontal elevations not developed, interantennal space indistinctly elevated. Antennæ

about as long as the body; first segment long and club-shaped, second thicker than, and about equal to, third, fourth slightly longer than third, the rest about equal in length and slightly and gradually thickened *Prothorax* broader than long, sides gently rounded, surface convex, distinctly punctate, the punctures becoming sparse towards the apex *Scutellum* small, triangular, with apex rounded and surface impunctate *Elytica* broader at base than prothorax, sides more or less nearly parallel, rounded towards the front angles, surface confusedly and comparatively strongly punctate, the punctures being stronger than those of the pronotum, interstices smooth and shining *Underside*, posterior tibis with a spine at the spex and a series of spinules on the outer edge, particularly towards the apex; first segment of posterior tarsi half the length of the corresponding tibia.

Length, $1\frac{1}{2}$ mm CEYLON. Horton Plans, 6000 ft, 18–20. m. 1882 (G. Lewis). Type in the British Museum Described from three examples.

254 Longitarsus liratus, sp. nov.

Body narrow, constricted at the base of the prothorax and elytia, and narrowing towards the apex; wingless. General colour dirty brown; elytia, except the apical part and the lateral margins, abdominal sternites, and apices of the posterior femora

smoky

Head with vertex impunctate, front somewhat convex, interautennal carina sharp, surface between the bases of the antennæ and the eyes convex Antennæ as long as the body, first segment long and club-shaped, second much shorter, third slightly longer than second, fourth much longer than third the following segments elongate and about equal Prothorax broader than long, sides rounded, surface distinctly and strongly punctate, and besides the punctures the whole surface has a certain rugosity. Scutellum small, triangular with the apex rounded, impunctate. Elytra not broader at base than prothorax; from the humerus extends a longitudinal ridge, which delimits the smoky discal surface from the brown marginal part, seen from above the ridge is quite prominent at the base but not so behind, but when viewed sideways at a certain angle the fidge can be seen to continue backwards and to disappear towards the apex of the elytron; surface distinctly but confusedly punctate, besides which it is Underside compared with the size of the insect the legs appear long, posterior tibize long, with the usual series of spinules on the external edge, and ending in a long spine; first segment of the posterior tais: half the length of the corresponding tabia.

Length, 2½ mm. As the head and prothorax of the particular specimen from which the above description is drawn up are somewhat stretched, the actual length may be 2 mm.

NILGIRI HILLS (G. F. Hampson)

Type in the British Museum.

Described from one example The general build, shape and structure of the elytia give it a characteristic appearance and, when lying on its side, the insect is not unlike a flea. It is a very interesting species.

255 Longitarsus fumidus, sp. nov.

Body ovate, narrowed at the base, somewhat broadened in the middle and then narrowed behind; wingless General colour brown, elytra almost wholly smoky, except a little portion at the apex and a part at the base; the margin is brown, but the smoky colour suffuses its middle portion to a certain extent, front of the head and apices of the posterior femora also smoky or black

Head with vertex impunctate, frontal elevations almost obsolete, interantennal caims short. Antennæ nearly as long as the body, first segment long and club-shaped, second much smaller and distinctly shorter than third, fourth slightly longer than third, the following segments elongate, more or less nearly equal, the four apical segments somewhat thicker Prothorar broader than long, slightly narrowed at base, sides feebly rounded; surface gently convex, feebly and finely punctate Soutellum triangular with the apex broadly rounded, broader than long, with surface finely granulate Elytra not broader at base than prothorax, surface confusedly and distinctly punctate Underside the posterior tabiæ, as usual in the genus, long, with the spinules on the external edge, and ending in a spine, first segment of the posterior tabis half the length of the corresponding tabis

Length, 24 mm

NILGIRI HILLS (G F Hampson)

Type in the British Museum. Described from one example

256. Longitarsus nigronotatus, Jacoby

Longitarsus nigronotatus, Jac, Ann Soc Ent Belg xl, 1896, p 259

Body oblong. Colour pale brown, antennæ, except the four basal segments, piceous, a rather large round spot in the middle of the elytra, their apices and the suture behind, black, underside generally piceous, in some parts lighter than in others; anices

of posterior femora blackish

Head impunctate, frontal elevations small, nearly joined to the clypeus, which is strongly convex and impunctate, eves large, the space dividing them narrower than their diameter. Antennæ hardly extending to the middle of the elytra, first segment long and club-shaped, second half as long as first, thicker than, and about equal in length to, third, third and fourth small and equal, the following segments very slightly thickened and somewhat longer. Protherax broader than long, sides straight, anterior

angles obliquely truncate, base with a distinct, slightly sinuate and transverse furrow, surface finely and sparingly punctate, more closely so behind the furrow Elytra distinctly broader at base than prothorax, surface with fine punctures, placed in irregular rows, at first sight the punctuation appears more confused than senate, and the series cannot be counted. Underside more shining than upper side, abdominal segments spaisely covered with fine hairs; first segment of posterior tarsi but little longer than the following segments together

Length, 2 mm

BURMA. Tharrawaddy.

Type in the British Museum

This species is closely allied to L. binotatus, from Shanghai

257. Longitarsus strigatus, sp nov.

Body oblong. Colour brown with the suture narrowly piceous, a longitudinal, ill-defined, stripe on each elytron blackish, antennæ blackish, except the three basal segments, which are brown; the fourth is not so pronouncedly blackish as the following segments,

and the eleventh is partly brown, but blackish at the apex

Head with vertex impunctate, frontal elevations absent, interantennal carina indistinct. Antennæ as long as the body; first segment long and club-shaped, second shorter, third hardly longer than second, fourth much longer than third, fourth to tenth elongate, equal, the eleventh pointed. Prothorax broader than long, sides slightly sinuate at the middle, anterior lateral angles oblique, each of the posterior lateral angles bearing a long fine seta, surface impunctate. Scutellum small, triangular, impunctate. Elytia distinctly broader at base than prothorax, humerus prominent, surface punctate, the punctures being to a certain degree arranged in longitudinal rows. Underside: posterior tibiæ long, with the usual series of spinules along the exterior edge and ending in a long spine, first segment of the posterior tarsi as long as half the corresponding tibia

Length, 2 min

TENASSERIM · Tavoy (Doherty)

Type in the British Museum Described from one example

258 Longitarsus birmanicus, Jacoby.

Longitar sus birmanicus, Jac, Ann Mus Civ. Genova, xxxii, 1892, p 921

Head, underside and suture (the last very narrowly) piceous, labrum entirely black; palpi testaceous; apical segments of antenna fuscous, the four basal segments testaceous; apices of posterior femora black, scutellum black, pronotum and elytra (excepting the suture) brown

Head with vertex impunctate, frontal elevations absent, eyes very large. Antennæ extending to the end of the elytra, fourth segment distinctly longer than third. Prothoraæ somewhat broader than long, sides straight, anterior angles oblique, surface with a few extremely fine punctures, only visible under a strong lens. Elytra hardly widened at the middle, shoulders rounded, obtuse, surface with extremely fine punctures, which are without any arrangement. Underside: first segment of posterior tails half the length of the tibia.

Length, 21 mm.

BURMA Karen Hills, Ascum-Ghecu, 1400-1500 metres (Fea) Type in the Genoa Museum.

259 Longitarsus rangoonensis, Jacoby.

Longitarsus 1 angoonensis, Jac., Ann Mus Civ Genova, xxxii, 1892, p 920

Body oblong Colour light brown, antennæ, except the three basal segments, and apical half of posterior femora, blackish or pitch-brown, the suture piceous, this colour being somewhat narrow at the commencement, then broadening, and not extending quite to the apex More than three basal antennal segments may be light brown, and also the sutural dark colour does not always reach the base

Head with a few punctures between the eyes; frontal tubercles not prominent, though not quite absent, area between the antennæ raised, eyes strongly convex. Antennæ extending to lather more than half the length of the elytra, first segment long and club-shaped, second shorter and thicker than, but about equal to, third, fourth slightly longer than third (but not nearly double the length, as Jacoby states, or at least not in the example before me, which bears a label of identification in Jacoby's handwriting), the rest of the segments about equal and Protho ax broader than long, sides rounded, anterior more hairy angles oblique and posterior rounded, surface finely and rather Scutellum triangular, broader than long, smooth, closely punctate Elytra somewhat bronder at base than prothorax, impunctate surface finely and rather closely punctate, the punctures being more prominent than those of the pronotum. Underside apices of posterior tibiæ somewhat broadened; first segment of posterior tars about half the length of the corresponding tibia

Length, 2½ mm

RURMA Rangoon, 1887 (Fen)

The above description is taken from one example in the British Museum, bearing Fea's and Jacoby's labels, and marked "type." But I do not think it is the actual type, which is presumably in the Genoa Museum

260. Longitarsus madurensis, Jacoby.

Longitai sus madui ensis, Jac, Ann Soc. Ent Belg. xl 1896, p 258

Body oblong Upper side dark brown, underside piceous, labrum black; suture narrowly black, posterior lemora and pygrdium piceous; four basal segments of antennæ brown, the rest

black, head obscure piceous or dark brown

Head with a low of distinct punctures placed transversely between the eyes, otherwise impunctate, clypeus with an acute and long central ridge Antennæ extending to the middle of the elytra, first segment long and club-shaped, second much shorter than first and hardly shorter than third, fourth somewhat longer than third; from the fifth to the end the segments are about equal, somewhat thickened and more hany Prothoraw broader than long, sides rather strongly rounded, the four angles rounded and the fine setm at the four corners distinct, surface rather convex, finely and closely punctate, some of the punctures slightly elougate in shape Soutellum triangular, broader than long, impunctate Elytra distinctly broader at base than prothorax, very slightly widered towards the middle, the apex of each elytron separately rounded, closely and confusedly punctate, the punctures rather larger and stronger than those on the pro-Underside first segment of posterior taisi half the length of the tibia, the spinules along the outer edge of the posterior tibiæ extending to a considerable distance towards, but not reaching, the base

Length, 21 mm

MADRAS Madura UNITED PROVINCES Kumnon, Haldwann District (H G. Champion)

Type in the British Museum,

261 Longitarsus hina *, sp. nov.

Body oblong Colour pale brown, elytra somewhat greyish; the three or four apical segments of the antenuæ, scutellum, suture, and apical portion of the femora, piccous; sometimes the colour is darker, and a larger portion of the femora, with the

breast, may be piceous.

Head with vertex impunctate, and with oblique impressed liner meeting in the middle, frontal elevations small and not prominent, interantennal space broadly elevated. Antennæ extender to a certain distance beyond the middle, first segment long and aller, thicker and about equal in length third fourth longer than third, fifth longer than fourth, the long three somewhat thickened. Prothorax somewhat broader and length sides rounded, the four corners each having a fine season and lightly convex and indistinctly punctate.

[#] Sanskrit, "smaller"

closely punctate, the punctures are arranged in close longitudinal strise, although the regularity of the arrangement is not definite enough to admit of the rows being counted; the punctures are larger than those on the pronotum. *Underside* first segment of posterior tarsi half the length of the corresponding tibia, which has the usual apical spine and the spinules along the external edge

Length, 12 mm

UNITED PROVINCES. Kumaon, Rankhet, Bhatkot (H. G. Champion).

Type in the British Museum Described from six examples.

262. Longitarsus belgaumensis, Jacoby.

Longitareus belgaumeneus, Jac, Ann Soc Ent Belg xl 1896, p. 260.

Body oblong, parallel-sided. Colour obscure brown; antennæ brown. with several of the apical segments darker, labrum black; suture very narrowly piceous, posterior femora black at the apex.

Head impunctate, without frontal elevations, clypeus with a central ridge, eyes strongly convex. Antennæ not quite extending to the apex of the elytra; first segment long and club-shaped, second about half the length of the first, third slightly longer than second but distinctly sliorter than fourth; the following segments elongate, slender and about equal Prothorax somewhat broader than long, sides slightly rounded near the base, anterior lateral angles oblique; the pore from which the seta rises is placed at a little distance before the middle on each side, surface apparently impunctate, but under a high power some extremely fine dots are seen, and towards the base, in certain lights, very fine longitudinal wrinkles are visible Scutellum triangular, with apex rounded and surface impunctate. Elytra subcylindrical, surface distinctly, confusedly and not very closely punctate, besides which the whole surface is initiately granulate.

Length, 2½ mm.

Bombay Belgaum (type-locality) Madbas: Palm Hills, Nentral Saddle, 500 ft, 13-15 ix 1922 (S Kemp); Nilgiri Hills (G. F Hampson), Shervaroy Hills, Yercaud, 5000-8000 ft., 7. viii 1917 (Y R Rao) Bihab. Pusi, on san leaf, 4 viii 1915 (U Bahadur, Pusa Coll) United Provinces Kumaon, Haldwani District, Ranikhet, and W Almora (taken on Quercus dilatata), 7000-9000 ft, vi 1917 (all H. G. Champion). Assam Mainpur (Doherty) Ceylon Colombo, on coast level, 7-27. iv. 1882 (G. Leurs); Kundy, vi 1968 (G. E. Bryant), Nuwara Eliya, 6284

8000 ft , 9-11. 11 1882 (G. Lewis)

Type in the British Museum
This species has a wide distribution in India and Ceylon It
occurs in the North as well as in the South, at high elevations
as well as on the sea-coast One specimen from Manipur, taken
by Doherty, is referable to this species. It is therefore to be

expected that there will be a certain amount of variation in the individuals—a fact which may render difficult the identification of a catch of only one or two examples

263 Longitarsus gavira *, sp nov.

Body oblong, broad Colour shining brown; apices of posterior

femora and the eight apical segments of the antennæ, black.

Head with vertex convex, impunctate, frontal elevations and interantennal carina not strongly developed. Antennæ somewhat less than, or almost equal to, the length of the body (& e, they are about two and a half millimetres long), first segment long and club-shaped, second much shorter than first and almost equal to third, fourth longer than third; the following segments almost equal Protherax broader than long, sides rounded, anterior lateral angles oblique, at each of the posterior lateral angles a small and fine seta is visible; surface gently convex, very finely and sparsely Scutellum triangular, with apex broadly rounded and surface smooth and impunctate Elytra distinctly broader at base than prothorax, confusedly and strongly punctate; in the example before me the punctures have dark centres Underside posterior tibise quite characteristic of the genus, having the series of spinules along the outer edge and a strong spine at the apex, first segment of posterior tais half the length of the corresponding tibia.

Length, 23 or nearly 3 mm.

United Provinces Kumaon, W. Almora, vill 1917 (H. G. Champion).

Type in the British Museum Described from one example.

264. Longitarsus malına †, sp nov

Body oblong. Colour shining piceous, antennæ, front and

middle legs, and posterior tibiæ, brown

Head with vertex convex, impunctate, frontal elevations absent, with two oblique impressed lines meeting in the centre of the front, internatennal carina sharp. Antennæ extending to a little distance beyond the middle of the elytra, first segment long and club-shaped, second much shorter than first, thicker than, and about equal in length to, third, fourth slightly longer than third, fifth about equal to fourth, from the sixth the segments are very slightly thickened, and the last is pointed. Prothorax broader than long, sides straight but rather oblique, anterior lateral angles oblique, each of the four angles possesses a fine seta, surface gently convex and punctate, the punctures somewhat larger and more crowded towards the base than towards the front margin, where they are finer and sparser. Scutellum

^{*} Sanskrit, "deep "

[†] Sanskrit, conveying the sense of "dirty-coloured"

small, insignificant, triangular, with apex rounded. Elytra distinctly broader at base than prothorax, sides narrowing somewhat behind the humerus, and then very slightly broadening: surface strongly punctate, the punctures having a certain amount of arrangement in longitudinal series, although this arrangement is not very clear Underside posterior tibize with the usual series of spinules on the outer edge near the apex, which is furnished with a spine first segment of posterior tarsi half the length of the corresponding tibia

Length, $2\frac{1}{4}$ mm.

UNITED PROVINCES Kumaon, W. Almora (H. G. Champion)
Type in the British Museum. Described from nine examples

265 Longitarsus sari*, sp nov.

Body oblong. Colour entirely light brown.

Head with vertex impunctate, frontal elevations oblique, weakly developed, interantennal carina short, not prominent Antennæ extending to some distance beyond the middle of the elytra, but not reaching their apex; first segment long and club-shaped, second much shorter than first, thicker than, and about equal in length to, third, fourth much longer than third, fifth almost equal to fourth, the following segments about equal to each other Prothorax broader than long, sides somewhat rounded; surface gently convex, very finely and sparsely punctate towards the base, while the part near the front margin is almost impunctate Scutellum small, triangular, with apex rounded and surface smooth. Elutra broad, distinctly broader at base than prothorax, sides almost parallel, apex rounded; surface strongly and boldly punctate, the punctures having a certain degree of arrangement in longitudinal strice Underside: posterior tibice, as usual in the genus, with a series of spinules on the onter edge and with the apex ending in a spine, first segment of posterior tarsi half the length of the corresponding tibia

Length 2 mm

BOXBAT Belgaum (Andrewes Coll)

Type in the British Museum. Described from seven examples. In one specimen, which is darker brown than the others, the punctures on the pronotum are quite distinct and more numerous than is usual, the front part being also punctate

266. Longitarsus puncti †. sp. nov.

Body oblong. Colour entirely shining dark ied-brown Head with vertex impunctate, frontal elevations not developed, two oblique impressed lines meeting in the middle of the front,

^{*} Linskrit, "a row"

[†] Sanskrit, meaning, like sare, "a row '

and interantennal carina well developed. Antennæ extending almost to the end of the body, first segment long and club-shaped, second much smaller than first and thicker but shorter than third: the following segments more or less nearly equal Prothorax broader than long, slightly narrowed behind, sides somewhat rounded, anterior lateral angles oblique; surface gently convex, distinctly and sparsely punctate, some of the punctures towards the base being rather stronger. Scutellum small, triangular, with apex rounded and surface smooth Elutia distinctly broader at base than prothorax, sides almost parallel, broadly rounded at the apex, surface strongly punctate, the punctures having a certain degree of regularity in their arrangement as longitudinal stries Underside posterior tibies long, with a series of spinules on the outer edge near the apical end, which is supplied with a spine, first segment of posterior tarsi half the length of the corresponding tibia

Length, 21 mm

Assam Sadiya (Doherty, type-locality), Patkai Mts (Doherty)
BURMA Ruby Mines (Doherty)

Type in the British Mu-eum.

Described from four examples, of which one from Sadiya and another from the Patkai Mountains are somewhat smaller than the type

267. Longitarsus tavoya, sp. nov.

Body oblong Colour dark red-brown, apices of posterior

femora black, last segment of the antennæ a little darker

Head with vertex impunctate, frontal elevations and interantennal carina feebly developed. Antennæ extending almost to the end of the body, first segment long and club-shaped, second and third almost equal, fourth much longer than third; the following segments elongated and equal, except the last three, which are slightly shorter. Protherax broader than long, sides more or less nearly straight, anterior lateral angles somewhat oblique, surface gently convex, distinctly and sparsely punctate Soutellum triangular, with surface smooth and impunctate. Elytra broad, distinctly broader at base than prothorax, surface strongly punctate, the punctures having a certain degree of regularity in their disposition in longitudinal strise. Underside posterior tibise long, somewhat curved, with the outer edge (near the apex, and to a certain extent above it) having a series of spinules, the apex ending in a spine, first segment of the posterior tarm half the length of the corresponding tibia

Length, 21 mm

TENASSERIM Tavoy (Doherty)

Type in the British Museum. Described from one example.

268 Longitarsus lohita *, sp nov

Body oblong Colour dark red-brown . pronotum blackish. Head with vertex impunctate, frontal elevations not well developed, oblique, bounded above by oblique deep channels. interantennal carina also present Antennæ extending to about the middle of the elytra, first segment long and club-shaped. second shorter than first but thicker than, and about equal in length to, third, fourth distinctly longer than third; the following segments about equal and somewhat thickened Prothorax broader than long, sides more or less nearly straight, anterior lateral angles oblique, surface gently convex, finely and very sparsely Scutellum triangular with apex rounded, surface punctate Elytra distinctly broader at base than smooth and impunctate prothorax, strongly punctate, the punctures arranged with some degree of regularity in longitudinal series. Underside posterior tibis somewhat curved, with the outer edge bearing a series of spinules, and the apex furnished with a spine. first segment of posterior tarsi half the length of the corresponding tibia

Length, 2 mm.

Assam Sadiya (Doherty)

Type in the British Museum. Described from three examples.

269. Longitarsus rectrcollis, Jacoby.

Longitai sus recticollis, Jac, Ann. Soc Ent Belg xlii 1898, p 188.

Body oblong. Colour pale shining brown, labrum, antenus (the three or four basal segments excepted), scutellum, sides of the breast and the posterior femora, dark pitch-brown or black; the basal half of the posterior femora lighter than the apical half

Head smooth and impunctate, frontal tubercles small and oblique, clypeus broad and strongly raised. Antennæ extending to about the middle of the elytra; first segment long and clubshaped, second much shorter than first, third somewhat longer than second and equal to fourth; the following segments very slightly longer, about equal to each other, and more hairy. Prothorax somewhat broader than long, sides straight, anterior lateral angles straight; surface entirely impunctate. Scutellum triangular, with apex very broadly rounded, broader than long, the surface impunctate. Elytra broader at base than prothorax, surface apparently impunctate, but under a high power extremely minute punctures are visible, while, in addition, dark round spots, showing through the transparent superficial layer of chitin, simulate punctures; these spots are not arranged in any regular order. Underside first segment of posterior tarsi about equal to

^{*} Sanskrit, "red"

the following segments together (including the claw-segment); spine at the apex of the posterior tibis short and stout.

Length, 3 mm; breadth, about 2 mm

CALCUTTA (type-locality). BIHAR Pusa, "on grass," 4. 11. 1906, 16.1x 1910 (Pusa Coll.). United Provinces Kumaon, Haldwani Division (H. G Champion). Cexion Colombo, "on coast level," 7-27 1v 1882 (G. Leurs).

Type in the British Museum. There are in the Indian Museum, Calcutta, specimens which were determined at the time

when Jacoby drew up the original description

270. Longitarsus gola *, sp nov.

Body oblong, broad Colour pale brownish-yellow; sides of breast and the posterior femora deep brown; five or six apical segments of antennæ piceous, scutellum rather darker than the

surrounding parts.

Head with vertex impunctate, frontal elevations obsolete, interantennal space raised. Antennæ extending to about the middle of the elytra, first segment long and club-shaped, second much shorter than first, somewhat thicker than, and about equal in length to, third, fourth distinctly longer than third; the following segments about equal, the last three somewhat thickened, and the last pointed *Prothorax* broader than long, sides rounded, anterior lateral angles thickened; surface gently rounded, distinctly, finely and somewhat closely punctate. Soutellum triangular with apex rounded, surface smooth and impunctate. Elytra hardly broader at base than prothorax, then somewhat broadening behind the base and slightly narrowing again towards the apex; surface distinctly, finely and confusedly punctate. Underside posterior tibiæ long, broadened at the apex, which is armed with a long spine, their outer edge with a series of spinules arranged in the usual way; first segment of posterior tars, half the length of the corresponding tibia.

Length, 31 mm., breadth, 2 mm.

UNITED PROVINCES: Kumaon, W. Almora Division, in. 1917 (H. G. Champion).

Type in the British Museum. Described from one example.

271. Longitarsus ochraceicornis, sp. nov.

Body oblong, the elytra somewhat widened in the middle and then narrowing a little behind. Colour dirty brown; the three basal and the four apical segments of the antennæ light brown, the four intermediate segments (fourth to seventh) darker; the contrasting colours of the segments stand out conspicuously and give the insect a characteristic appearance; posterior femora somewhat darker brown.

[&]quot; Sanskrit, " round."

Head with vertex impunctate, frontal elevations absent, interantennal carma sharp, though not very well developed. Antenna about as long as the body, first segment long and club-shaped. second not much shorter than first, thicker and somewhat longer than third, fourth longer than third, fourth, fifth and sixth more or less nearly equal; the following segments slightly thickened Prothorax slightly broader than long, or almost and longer quadrate, sides almost straight, anterior lateral angles thickened. each of the four angles with a fine seta, surface very gently convex and impunctate. Scutellum triangular with apex rounded. surface smooth and impunctate. Elytra slightly broader at hase than prothorax, surface punctate, the punctures being fine (some of them indistinct), not very close together and generally confused. Underside posterior tibies long, with the outer edge furnished with spinules, and ending in a spine at the apex; the whole of each posterior tarsus is about equal in length to the corresponding tibia, the first segment being half the length of the tibia.

Length, 13 mm

CEYLON Kandy, vii 1908 (G. E Bryant); Bogawantalawa, 4900-5200 ft, 28 ii -12. iii 1882; Kitulgalle, 1700 ft, 17-20. i 1882; Dikoya, 3800-4200 ft, 21. i -7. ii 1882 Three examples taken by G Lewis, one from each of the three latter localities, are darker in general colour, although the characteristic antennal coloration is present

Type in the British Museum Described from eight examples.

272. Longitarsus longicornis, Jacoby.

Longitarsus longicornis, Jac., Proc Zool Soc Lond 1887, p 87

Body ovate, convex. Colour obscure testaceous, apices of the femora piceous; labrum and palpi piceous; elytra somewhat

darker than prothorax

Head quadrate, about as broad as long, entirely impunctate, frontal tubercles scarcely indicated. Antennæ slender, longer than the body; first segment long and club-shaped, second shorter than first, third distinctly shorter than fourth but longer than second, fourth to ninth about equal, tenth and eleventh somewhat shorter. Prothorax somewhat broader than long, broadened in front, narrowed behind, sides slightly rounded, anterior lateral angles obliquely truncate, the seta at each of the four corners distinctly long; surface entirely impunctate. Scutellum triangular, broader than long, impunctate. Elytra ovate, narrowed near the base and at the apex; surface extremely initiately and not closely punctate, the punctures only visible under a high power. Underside first segment of posterior tarsi rather longer than the following three together; claw-segment projecting much beyond the bilobed segment; claws strong.

Length, 21 mm. length of antenna, 32 mm.

CEYLON Bogan antalawa (G Lewis)

Type in the British Museum.

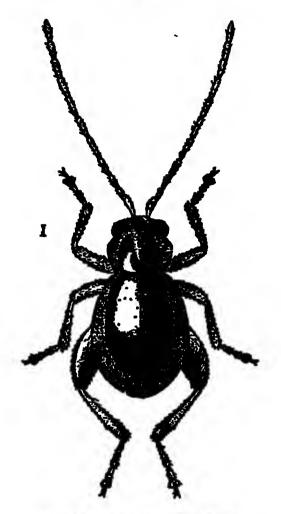


Fig 122 -Longitarsus longicornis, Jac

273 Longitarsus rufipennis, Jacoby

Longitarsus rufipennis, Jac, Ann Soc Ent Belg xl, 1896, p 260 Longitarsus fulvobrunneus, Jac, Ann Soc Ent Belg xlvn, 1904, p 390

Body ovate; wingless Colour dark brown or reddish; antennæ black, except the two basal segments and the third, which is only partly black, this latter colour gradually becomes more intense on the distal segments, legs black, bases of femora and posterior tibiæ brown, palpi piceous

Head impunctate, frontal elevations only indicated, central longitudinal carina raised. Autennæ comparatively stout, extending to the point where the elytra slope down, first segment long and club-shaped, second much shorter than first, third shorter

212

than fourth but longer than second, the following segments elongate and about equal, except the last two, which are somewhat shorter, the basal segments are less harry than the apical. Prothorax scarcely one-half as broad as long, somewhat narrowe at the base, sides feebly rounded at the middle, anterior lateral angles oblique, surface impunctate and, when seen under a high power, minutely granulate Scutellum triangular, broader than long, impunctate. Elytra narrowed at the base, widened towards the middle; seen under a high power the surface is minutely and not very closely punctate, but under a low power it may appear impunctate it bears some obscure blackish spots. As stated above, the hind wings are absent. Underside legs long and stout; first segment of posterior tarsi somewhat less than half the length of the tibia, second segment about half the length of the first

Length, 21 mm.

MADRAS. Madura (type-locality of L rufipennis). Pondi-CHERRY (type-locality of L fulvobrunneus)

Types of both rufipennis and fulvobrunneus in the British

Museum

I have carefully examined the types of rufipennis and fulvobrunneus, and am unable to find any substantial difference to justify their being regarded as separate species

274. Longitarsus sundara,* sp. nov.

Body oblong Colour of elytra red; head and pronotum darker, the latter sometimes black, apical half of posterior femora always black, antennæ generally brown, but sometimes the six or seven apical segments are rather darker, though not

very definitely so

Head with vertex impunctate, frontal tubercles absent, interantennal ridge sharp. Antennæ extending to nearly the end of the body; first segment long and club-shaped, second much shorter, third slightly longer than second, fourth distinctly longer than third, the following segments about equal Protheras broader than long, the sides rounded, surface gently rounded, very finely and not very closely punctate. Elytra distinctly broader at base than prothorax, surface finely punctate, the punctures having an indefinite longitudinal serial arrangement Underside: posterior tibiæ long, with the usual spinules along the exterior edge, and ending in a long spine at the apex, first segment of posterior tarsi half the length of the corresponding tibia.

Length, 21 mm.
ASSAM · Sadiya (Doherty, type-locality); six other examples from Manipur (Doherty)

Type in the British Museum The species is described from

seven examples

Two of the Manipur specimens are somewhat narrowed towards the spex of the elytra, not so rounded in that region as are the others, in one specimen the pronotum is black, in another piceous, and in two others still less dark, thus a gradation in this colour can be recognised.

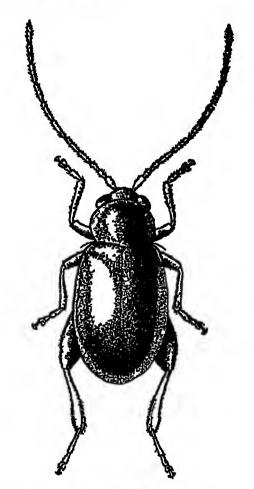


Fig 123 - Longitarsus sundara, Maulik.

275 Longitarsus pandura *, sp. nov.

Body oblong, parallel-sided. General colour pale brown, the seven apical segments of the antenne darker; apices of the posterior femora also sometimes darker brown.

^{*} Sanskrit, meaning a shade of brown

Head with vertex impunctate, frontal elevations and interantennal carma teebly developed, the former separated from the front by two oblique channels which meet in the centre. Antenna slender, extending beyond the middle of the elytra. first segment long and club-shaped, second shorter, much thicker than third, the latter slender, hardly longer than the second. fourth longer than third, fifth to ninth more elongate, slender, the last two somewhat shorter Prothorax somewhat broader than long, sides almost straight, anterior lateral angles slightly thickened; surface gently convex. and impunctate. Scutellum small, triangular, with apex rounded and surface smooth and impunctate. Elytra somewhat broader at base than prothorax. sides almost parallel, apex rounded; surface indistinctly, minutely and confusedly punctate Hind wings present Underside posterior tibize somewhat broadened at the apex, with the usual spinules on the outer edge, and ending in a spine, first segment of the corresponding tars half the length of the tibia.

Length, 13 mm.

CEYLON Kandy, vi 1908 (G E Bryant); Peradeniya, 12 x. 1913 (A. Rutherford); Bognwantalawa, 4900-5200 ft., 21. 111-4. 1v 1882 (G. Lewis)

Type in the British Museum. Described from eight examples. The specimen collected by Mr Lewis is much darker brown in

general colour than the others.

276. Longitarsus championi, sp. nov.

Body suboblong, wingless Colour dark brownish, not an uniform brown, head somewhat darker brown; clypeus black; the basal segment and four or five apical segments of the antennæ slightly darker brown, dorsum of abdomen black, which shows through the more or less transparent elytra; front and middle

legs lighter brown, apices of posterior femora black.

Head vertex impunctate, frontal elevations slightly developed, interantennal carina present. Antennæ about as long as the body, first segment long and club-shaped, second shorter than first, thicker than, and about equal in length to, the third, fourth longer than third, fifth to eighth about equal, the following segments somewhat thicker. Protheraw broader than long, sides (viewed from above) oblique but straight, slightly widening towards the front angles, which are thickened, posterior angles rounded, each bearing a fine seta, surface very finely, sparsely and indistinctly punctate, and this can only be seen under a high power. Scutellum trangular, with apex rounded, surface smooth and impunctate. Elytia somewhat broader at base than prothorax, surface finely but distinctly punctate, the punctures not very close to each other on the disc but closer along the sides, and arranged more or less in longitudinal rows. Underside:

posterior tibus somewhat curved, with the usual spinules on the outer edge, with a spine at the apex, the whole of each posterior tarsus is just a little shorter than the corresponding tibus, with the first tarsal segment about half the length of the tibus

Length, a little less than 2 mm.

UNITED PROVINCES Kumaon, W Almora (H. G Champion). Type in the British Museum Described from four examples.

277. Longitarsus anu *, sp nov.

Body small, ovate, narrowed at the base of the prothorax and elytra, then broadened behind, wingless Colour dirty light

brown, abdominal sternites and posterior femora blackish.

Head with vertex impunctate, frontal elevations and interantennal carina not strongly developed. Antennæ as long as the body, flist segment long and thickened, second and third about equal in length, but the second is thicker, fourth longer than third, the following segments are elongate and about equal. Prothorax somewhat broader than long, slightly narrowed at the base, sides almost straight, surface gently convex and impunctate Scutellum small, triangular, with apex broadly rounded, impunctate Elytra narrowed and not broader than the prothorax at the base; surface minutely and distinctly, but confusedly, punctate, the punctures not very close. Underside characters of posterior tibix and tarsi as usual in the genus

Length, 12-13 mm

CEYLON. Peradentyn, 3 1x. 1914 (A Rutherford)

Type in the British Museum. Described from four examples.

The following eight species of Motschulsky are enumerated here, but not included in the key on pp 335-357. In no case have the types been examined, and these are possibly lost. The descriptions are freely translated from the originals in Latin or, in some cases, French —

Longitarsus sutura nigra, Motschulsky

Temodactila sutura migra, Motsch, Bull Soc Nat Mosc xxxx, 1866, part 1, no 2, p 416

In form and colour resembling T. nigrocilla, but more than twice as large. Elongate-ovate, convex, shining, reddishtestaceous, with the antennæ (their bases excepted), eyes, scutellum, suture broadly, margins of the elytia, and underside, black, knees and posterior tibiæ black; all the tarsi infuscated

Length, 11 lin; breadth, 4 lin

CEXLON: mountains of Nuwaia Eliya

^{*} Sanski it "ininute," "vory small '

Longitarsus suturellus, Motschulsky

Temodactila suturella, Motsch, l c

In form and colour resembling the former species, but smaller Tibiæ and tarsus testaceous Elongate-ovate, convex, shining, subfusious-testaceous, with the eves, and the suture very narrowly, black, and the apex of the antennæ, posterior knees and underside infuscated

Length, 1 lin , breadth, ½ lin. Ceylox mountains of Nuwara Eliya

Longitarsus atripes, Motschulsky

Temodactila atripes, Motsch, t. c, p 417.

In form and colour resembling the preceding species except that the ruture shares the general colour of the body. Elongate-ovate, convex, shining, reddish-testaceous, with antennæ, eyes and legs black, tibiæ and bases of antennæ a little infuscated

Length, 1 lin, bieadth, ½ lin Cexton: mountains of Nuwara Eliya

Longitarsus albescens, Motschulsky.

Temodactila albescens, Motsch, l c.

A closely related but slightly smaller species occurs in Continental India. It is principally distinguished by the whitish colour of the elvtra and by the legs being testaceous, except the posterior femora, which are smoke-coloured.

Longitarsus simplex. Motschulsky

Ternodactila simplex, Motsch, I c

In form and colour resembles T. lunda, but is a little smaller, and the prothorax is narrowel. Elongate-ovate, convex, reddishtestaceous, with antennæ and legs paler, eyes black, and prothorax subquadrate

Length, & lin , breadth, & lin.

CEXLON Nuwara Eliya.

Longitarsus paria, Moischulsky,

Temodactila paria, Motsch., l c

The continent of India also presents a species very nearly related, T. para, Motsch., which is a little shorter and has the head and the anterior part of the antennæ strongly infumated.

Longitarsus undulatovittatus, Motschulsky.

Temodactila undulatovittata, Motsch, l. c

Form of T. dorsalis but more oblong. Elongate-ovate, subconvex, shining, testaceous, the antennæ apically subclavate, the head and an undulated vitta on each elytron black, the prothorax subquadrate, reddish-testaceous

Length, 1 lm , breadth, ½ lm

CEYLON Colombo

Longitarsus morio, Motschulsky.

Temodactila morio, Motsch, t c., p 418.

In form and colour resembles T. anchusæ but is shorter and smaller by one-half. Oblong-ovate, convex, shining, punctate the base of the autennæ and the legs testaceous, the posterior legs infuscated; humerus somewhat prominent.

Length, & lin , breadth, & lin

CETION mountains of Nuwara Eliya There is a specimen doubtfully determined as this species in the British Museum.

Genus LUPEROMORPHA, Weise

Luperomorpha, Weise, Wiegmann's Archiv f. Naturg hii, part 1, 1887, p. 202

GENOTYPE, Luperomorpha trivialis, Weise (Siberia) This was the species for which the genus was erected. A specimen of L. trivialis, Weise, from Korea, identified by Heikertinger, is in the British Museum, and this example I have examined

Head moderately large, somewhat long, with vertex slightly convex, frontal tubercles not strongly developed, interantennal carina well developed, sharp and short, clypeus small, transverse Autennæ in the male longer than, and in the female about half as long as, the body, the first three segments comparatively thinner. the following segments somewhat broadened, the first segment as long as the following two together Prothorax somewhat broader than the head, almost as broad as long, sides rounded, posterior lateral angles widely rounded, anterior lateral angles sometimes oblique and thickened, each furnished with a seta-bearing pore, the seta itself short, surface gently convex, often very finely alutaceous or finely granulate, and also punctate, the punctures being always fine and more or less sparse; no ante-basal transverse furlow Scutellum triangular with apex rounded Elytra somewhat broader than prothonax at base, sides almost parallel, surface generally punctate, the punctures being usually stronger than those on the pronotum; on the apical part there are a few scattered, erect, sets-like hairs, which are hardly visible unless seen in a suitable light and under a high power Underside

anterior coxal cavities open behind; the prosternal piocess between the anterior coxe is narrow and the latter themselves are conically prominent, posterior femora thickened, posterior tibise not broadened at the apex, with a narrow sulcus on the outer surface, furnished with a terminal spine, and four times as long as the first segment of the taisus

RANGE Siberia, Japan, India, Ceylon, Malaysia, etc.

Key to the Species

1 Elytra uniformly black without any transverse or longitudinal fascia or band

Elytra not uniformly black

2 Elytra black with a transverse white band behind the middle

Elytra with the suture and the lateral and apical margins black or piceous, and the central part longitudinally brown, when the black areas are broad the brown area is narrowed to the form of a band and vice versa.

3 Head black

Head not black

4 The dark stripe is uniform and regular all round each elytron, that on the lateral margin being not much broader than that on the sutural margin

The lateral stripe on each elytron is distinctly broader at the middle than that on the suture, thus making the central brown area narrower at the

middle

5 Head and prothorax fawn-coloured, breast, antennæ and posterior femora pitch-brown, elytra brownish-black with a yellowish stripe

The colour of all the brown parts is of the same tint, and when they vary they do so equally, i.e., the brown colour on the elytra is not different from that of the other brown parts [p 862 L nigripennis, Duviv,

[p 368]
L. albofasciata, Duviv,

L birmanica, Jac, p 363

L discoidea, Jac, p 364

L vittata, Duviv, p 365

L bombayensis, Jac, p 365

278 Luperomorpha nigripennis, Duvivier

Luperomo: phu nug: ipennis, Iduriv, Ann Soc Ent Belg xxxvi, 1892, p 428

Phyllotreta flauventris, Jac, Ann Soc Ent Belg xl, 1896, p 257

Luperomorpha weiser, Jac, Ann Soc Ent Belg xli, 1898, p 189

Body elongate, parallel-ided Colour mainly black, prothorax and abdomen deep rich brown, scutellum and elytra black; palpi piceous; the three basal segments of the antenna slightly stained with brown; anterior legs more or less stained with brown; posterior tible sometimes brown

Head impunctate, frontal tubercles small, triangular, the carina strongly raised not very sharp. Antennæ extending nearly to the middle of the elytra, second and third segments short, about equal or the latter slightly longer than the former, fourth somewhat longer than fifth, the following segments somewhat thickened. Prothorax hardly broader than long, sides slightly rounded, gradually incrowed in front, posterior angles strongly oblique, anterior angles slightly produced and thickened, surface rather flattened, extremely minutely punctate. Scutellum smooth and impunctate. Elytra wider at the base than the prothorax; closely, finely and distinctly punctate.

Length, 31 mm.

BOMBAY Belgaum (type-locality of P flaviventris) CHOTA-NAGPUR Ranchi (Irving, type-locality of L weser) NILGERI

HILLS (H L Andrewes) MISORE

Type of L nagrepoints in the Brussels Museum A cotype exists in the British Museum from Mandar, and after comparing this cotype with the types of P flaviventies and L weise (both in the British Museum) I am of opinion that the three species are identical. The differences, viz., those in the front of the head and the apical portion of the abdomen, together with the smaller size, on which Jacoby relied to maintain L weiser as a separate species, may well be regarded as individual variations.

279. Luperomorpha albofasciata, Duvivier.

Luperomorpha albofasciata, Duviv., Ann Soc Ent Belg. xxxvi. 1892, p 428

Body somewhat oblong, more oval Underside black, prosternum and anterior legs brown, antennæ and prothorax yellow, head reddish; scutellum and elytra black, each elytron behind the middle with a tiansverse white band (with irregular borders) which does not reach the inargin, intermediate legs marked with brown, knees reddish

Head smooth Prothorax almost smooth, with very feeble impressions at the middle of the disc, extremely finely punctate. Scutellum very finely ingulose Elytra distinctly punctate, rugulose, each with a longitudinal impression inside the shoulder,

obliquely prolonged on the disc

Length, 34 mm

DARJEELING DISTRICT Kurseong (Père Bract)

Type in the Brussels Museum (unique) I have not seen this species

280. Luperomorpha birmanica, Jacoby

Aphthona birmamca, Jac, Ann Mus Civ Genova, xxxii, 1892, p 920

Colour generally dark brown, head and antennæ black, the three basal segments of the latter piceous, elytra paler brown,

the margins more or less broadly piceous or black, scutellum. breast, and apices of hind femora piceous, coloration of the underside variable, the brown is stained with piceous and some-

times the hind legs are black.

Head impunctate, frontal elevations almost entirely obsolete. interantennal carina well developed. Antennæ half the length of the body, second and third segments short, about equal, or the latter slightly longer than the preceding one, the following segments somewhat thickened. Prothorax hardly broader than long. sides nearly straight, posterior angles distinctly oblique, surface without any impression, finely granulate, and with a few very fine Scutellum triangular, with apex rounded and surface impunctate. Elytra broader at base than prothorax, extremely finely and confusedly punctate, and very finely granulate, the apical part of the surface bearing a few scattered erect sets. which can be seen in a suitable light and under a high power

Length, 31 mm

BURMA Pegu (Fea), Palon (Fea)
The actual type is in the Genoa Museum. There is also one example with Fea's label, and marked "type," in the British Museum

281. Luperomorpha discoidea. Jacoby

Phyllotreta discoidea, Jac., Proc Zool Soc Lond 1887, p 84

Head, prothorax and abdomen deep brown, the last segment of the abdomen black, antennæ, breast and legs black, the basal segments of the antennæ partly brown; elytra lighter brown with the suture and margins narrowly black, the sutural stripe generally narrowed near the base; front femora slightly stamed with brown below, the points of articulation of the parts of the legs also much suffused with brown

Head impunctate, frontal tubercles transverse, narrow, and very Antennæ half the length of the body, first segment long and club-shaped, third smaller than second, fourth longer than fifth, the following segments gradually thickened Prothorax transversely quadrate, sides slightly rounded, surface finely granulate and punctate, rather flat, with a very obsolete and shallow depression at the middle of each side Soutellum triangular, with apex lounded and impunctate Elytra broader at base than prothorax, parallel, not covering the pygidium; surface finely granulate and punctate, the punctures being fine and not close together

Length, 3 mm.

CEYLON · Bogawantalawa (G. Lewis); Kandy, vi. 1908 (G. E. Bryant); Galle, on coast-level, 27 x1-4 x11. 1881 (G. Lewis). Type in the British Museum.

282. Luperomorpha vittata, Dunvier

Luperomorpha vittata, Duviv, Ann Soc. Ent Belg xxxvi, 1892, p 427

Body oblong Head, prothorax, and underside fawn-coloured; palpi blackish, meso- and metasterna, antennæ (except the three basal segments, which are red-brown) and posterior femora pitch-brown, legs brown, scutellum brownish, elytra brownish-black, each having a large longitudinal yellowish stripe, rounded in front, sinuate on the outer side at the middle, and terminated before the apex. This species varies in the coloration of its various paits.

Head smooth, but under a high power appearing very finely granulate. Antennæ about half the length of the body, robust; second and third segments subequal, each of the following segments as long as the first, distinctly thickened and pubescent. Prothorar hardly broader than long, feebly narrowed in front and behind, anterior border straight, sides slightly rounded, base a little situate in front of the scutellum, posterior lateral angles rounded, anterior oblique and each with a pore from which rises a seta, surface finely punctate. Scutellum triangular Elytra with the surface finely granulate and also finely punctate, the apical part of the surface has a few scattered hairs.

Length, $3\frac{1}{2}$ mm

CHOTA NAGPUR Barway (Père Cardon)

Type in the Brussels Museum I have not seen this species.

283 Luperomorpha bombayensis, Jacoby

Phyllotreta bombayensıs, Jac, Ann Soc Ent Belg xl, 1896, p 257.

Colour pale brown; antennæ (except the three basal segments), breast and legs more or less black, scutellum and elytra with the suture and lateral margins all round and the apex blackish; sometimes the blackish colour of the margins is so broad that the pale part forms a longitudinal stripe, narrowed in the middle; anterior legs and tibiæ partly stained with brown; abdominal segments lighter brown, the apex darker; labrum piceous. In some specimens the underside and legs, as well as the elytral margins, are obscure brown

Head impunctate, frontal tubercles obsolete, clypeus with a distinct central nidge. Antennæ rather robust, extending to about the middle of the elvin, first segment long and clubshaped, second thickened, not shorter than the third, fourth and fifth more elongate, rather stout, as are also the following slightly shorter segments. Prothorax hardly broader than long, lateral margins very slightly rounded, posterior angles obliquely rounded,

^{*} Probably very easily detaclied, as they are called in the original description 'tres caduques'

surface with a very obscure depression at each side, finely granulate and punctate Soutellum triangular, with the apex rounded and surface impunctate Elytra somewhat broader at base than prothorax, extremely minutely punctate

Length, 31 mm.

BOMBAY Belganm; Dhanwar Type in the British Museum

This species and L discoides conform to the generic characters of Luperomorpha, particularly in the shape of the prothorax and the structure of the posterior tibis, but I cannot see any seta-like hairs on the apical part of the surface of the elyira.

Genus APHTHONA, Chevrolat

Aphthona, Chevrolat, in d'Oibigny, Diet univ. Hist. nat 11. 1842, p 5, Chapuis, Gen Col xi, 1875 p 72, Fowler, Col Brit Is 1v, 1890, p 868

GENOTIFE after the short diagnosis of this genus three species are mentioned by Chevrolat, of which the first is Altica cyparissia, Koch, Ent Heft ii, 1803, p 80 (Europe) I find no record of the type of the genus having been fixed subsequently, and therefore the species mentioned above is hereby designated as the genotype

This genus, being artificial, is very difficult to define The form and size of the body vary considerably, and the colour also varies

very much.

Head with vertex impunctate, and often furnished with oblique lines and tubercles Antennæ not generally so long compared to the length of the body as in Longitarsus, hardly extending beyond the middle, the basal segments vary in length in relation to each other, but the first is always long and club-shaped. Eyes oval, more or less prominent Protho az broader than long, without a basal transverse depression, anterior lateral angles often obliquely truncate, each of the four corners usually furnished with a fine seta which uses out of a pore, surface usually punctate Scutellum triangular with the apex rounded, surface generally impunctate Elytra usually broader at the base than the prothorax, oblong, rounded at the apex, surface finely and confusedly punctate Underside prosternum very narrow, anterior coxal cavities open behind, posterior femoia incrassate; posterior tibiæ dilated from base to apex, the outer side flat with the edges set with fine bristles, and the outer edge sometimes with spinules, the apex usually ends in a spine situated on the outer side, but this is sometimes absent altogether, first segment of posterior tarsi distinctly less than half the length of the corresponding tibis, second segment shorter, third bilobed, and fourth terminating ın sımple claws

In some cases the males may be distinguished it om the females by the more obtuse autural angles of their elytra, by their comparatively thicker antennæ, and by the slight dilatation of the first segment of the tars:

Range. World-wide.

Key to the Species.

	2	
J	Colour of upper side yellow-brown .	2.
	Colour of upper side not yellow-blown	5.
2	Abdomen and underside black, apices	
	of the femora not darker than their	
	basal part	A atriventris, sp n , p 368.
	No such combination of colours	3
3	Scutellum black	4
_	Scutellum not black .	A kanaraensis, Jac, p 368
4	All the femora black, suture narrowly	uerosa, uuo, p uuo
	piceous	A nilgiriensis, Jac, p 369
	Only the posterior femora black or	_ maga amou, out, p 000
	deeply piceous, suture not piceous	[p 370
	at all	A mgrilabrus, Duviv,
K	Pronotum and elytra concolorous	7.
v	Pronotum and elytra not concolorous	6
R	Larger meets (8½ mm long), pro-	· ·
٠.	notum reddish-brown, shoulders not	
	prominently convex	A hugelt, Jac., p 371
	Smaller insects (2 mm long), pronotum	22 Rugeri, Onc., p 5/1
	yellow-brown, shoulders prominently	
		A James You n 970
77	Colourofat least the unnerside metallic	A lews, Jac, p 372
•	Colour of at least the upper side metallic. Colour non-metallic	บั
Ω		11
0	Entirely metallic bright blue, antennes, tibies and tarsi black	4 ammas Too - 970
		A azurea, Jac, p 372
0	No such combination of colours	8
J .	Upper side metallic greenish or blush,	
	underside piceous, antennæ and legs	4 Jan To 000
	light brown	A indica, Jac, p 373
30	No such combination of colours .	10
10	Upper side metallic dark blue, under-	A madenance To a One
11	side bluish-black	A andrewess, Jac. p 374
11	Insects of a larger build (21 mm long),	
	obscure piceous, generally the third, fourth, and fifth segments of the	
	nourth, and first segments of the	
	antenue alternately bright brown and	4 Too 074
	blackish	A proxima, Jac., p 374
	Smaller insects (14-14 mm long),	
	without the characteristic antennal	12
10	colouring described above	12
12	Body oblong (I mm long), the elytra	
	not widened at the middle, shining	A ways las m 975
	black, tarsi not brown	A vicina, Jac, p 375
	Body ovate (14 mm long), the elytra	
	distinctly widened at the middle; obscure piceous, tarsi brown	A antimenes Tag - 972
	onsente bicenns, ratsi promii	A ceylonensis, Jac., p 375.

Three of Motschulsky's species are added on p. 376, but are not included in the above key.

284. Aphthona atriventris, sp. nov

Body oblong, almost parallel-sided Colour yellow-brown; abdomen and underside black, apices of femora not darker brown than their basal part, the four or five apical segments of the

antenue somewhat darker brown than the others.

Head with vertex impunctate, channelled above the eves, frontal elevations not strongly developed, interantennal carina short. Antennæ extending to about the middle of the elytra; first segment long and club-shaped, second shorter but thicker, about equal in length to the third, fourth very slightly lenger than third, fifth to seventh about equal in length, the four apical segments somewhat thickened Prothorax bronder than long, sides rounded, anterior lateral angles somewhat thickened, surface gently convex, feebly and finely punctate Soutellum triangular with apex rounded, surface smooth and impunctate Elytra hardly broader at base than prothorax, very finely and confusedly punctate, a few of the punctures on the disc having a tendency to arrangement in longitudinal rows Underende on the outer corner of the apex of the posterior tibia is a stronger and larger bristle: first segment of the corresponding tarsus less than half the length of the tibia

Length, 21 min

United Provinces: W. Almora, Sunderdhunga Valley, 8,000-12,000 ft (H G Champion)

Type in the British Museum. Described from six examples.

285 Aphthona kanaraensis, Jacoby.

Aphthona kanar aensis, Jac., Ann Soc Ent Belg. xl, 1896, p. 255 Longitarsus kanaraensis, Jac., Ann Soc Ent Belg xlviii, 1904, p. 389

Body oblong, almost parallel-sided. Colour shining pale yellow-brown; the six apical segments of the antennæ black, the five basal segments brown, underside generally darker brown than the upper side, sides of the breast piceous, or sometimes the whole of the breast blackish; apices of posterior femora dark brown

Head impurctate, obliquely channelled above the eyes, frontal elevations obsolete, interaintennal carina short. Antennæ extending to about the middle of the elytra, first segment long and clubshaped, second small, thickened, third and fourth equal, each scarcely longer than the second; the following segments more elongate and slender Prothorax somewhat broader than long, sides feebly rounded, the four corners more or less rounded, surface shining, impunctate. Scutellum small, triangular, impunctate Elytra not wider at base than prothorax, subcylindrical and, when seen under a high power and in a suitable light, extremely minutely and confusedly punctate Underside posterior tibies with the usual spinules on the outer edge, but with no spine

at the apex; first segment of posterior taisi as long as the tollowing segments together, distinctly less than half the length of the corresponding tibia.

Length, 2-23 mm

BOMBAY N. Kanara (T R Bell, type-locality). BIHAR Pusa, 24 IV 1906 (Pusa Coll)

Type in the British Museum

From Longitarsus belgaumensis, Jac. (p. 348), this species differs in having the antennæ shorter and with the segments of different relative lengths, and in the colour, the elytra being entirely brown and the sides of the breast black

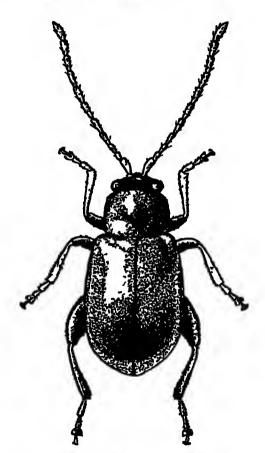


Fig 124 -Aphthona nilgir iensis, Jao

286 Aphthona nilgiriensis, Jacoby.

Aphthona nilgu iensis, Jac , Ann Soc Ent. Belg. xlvu, 1903, p 103

Underside, legs and scutellum black, the three basal segments of the antennæ more or less dark brown, the remaining segments (except part of the fourth, which is dark brown) and sometimes vol. II

the underside of the three basal segments black, head pale piceous, labrum piceous, suture narrowly piceous; anterior tibiæ and the bases of the other tibiæ dark brown

Head with the vertex implinetate, floutal tubercles and interantenual carina small but well developed. Antennæ comparatively
stout, extending beyond the middle of the elytra; first segment
long and club-shaped, second and third equal or nearly so, but the
former is much thicker than the latter, tourth and fifth equal,
sixth and seventh somewhat shorter and equal to each other, the
rest about equal and slightly thickened Prothorax subquadrate,
sides nearly straight, anterior angles oblique; surface entirely
impunctate, shining Scutellum triangular with apex broadly
rounded, smooth, impunctate Elytra nearly impunctate, under
a strong lens minute punctures are visible, more so towards the
base than towards the apex Underside inst segments of posterior tars as long as the two following segments together

Length. 3 mm

NILGIRI HILLS (Andrewes Coll.).
Type in the British Museum.

287. Aphthona nigrilabris, Duvivie:

Aphthona nigrilabius, Duviv, Ann Soc. Ent Belg xxxvi, 1892, p 426, Jacoby, Ann Soc. Ent Belg. xl, 1896, p 255

Body subovate Shining yellow-brown the five to eight-segments of the antennæ from the apex, labrum, scutellum, breast and posterior femora pitch-black.

Head with vertex impunctate, with two oblique impressions in front above the eyes, meeting in the centre, frontal tubercles absent, interantennal carina well developed, labrum large. Antennæ slender, about half the length of the body, first segment long and club-shaped, second thickened, somewhat shorter than thud, the latter about equal to the fourth. the following segments more or less nearly equal. Prothoraa broader than long, sides straight, anterior lateral angles obliquely truncate, posterior rounded, basal margin teebly rounded, surface gently convex and entirely smooth, shining, and impunctate Scutellum triangular with apex rounded, surface smooth and impunctate broader at base than prothorax, somewhat broadened behind, seen under a high power to be extremely finely and sparsely punctate, and besides these nunctures there are in some specimens round, closely placed, dark spots which simulate punctures Underside: posterior tibiæ with spinules along the outer edge and ending in a terminal spine, but, despite this fact, the first segment of the posterior tarsi 14 not long enough for this species to be placed in the genus Longitar sus

Length, 24-3 mm.

BENGAL Konbir (Pers Cardon). BINAE: Pusa, "mining Dudhi leaves" (Andrewes Coll.). BOMBAY: Belgaum.

Type in the Brussels Museum An example from Duvivier's collection, which may be regarded as a cotype is in the British Museum

288 Aphthona hugeli, Jacoby

Aphthona hugel, Jac, Mem Soc Ent Belg. vn, 1900, p 121

Body oblong-ovate Colour shining reddish-luown, the two basal segments of the antennæ brown, the third partly so, the rest black, mandibles piceous, scutellum black to piceous, elytra black, in some specimens the tarsi are more or less piceous or

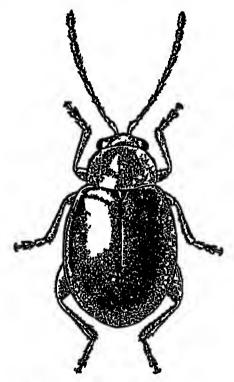


Fig 125 -Aphthona hugeli, Jac

fuscous, and in others the black of the elytia tends to become brown

Head impunctate, frontal tubercles maniowly transverse, clypeus distinctly raised, penultimate segment of maxillary palpi rather thick. Antennæ extending a little beyond the uniddle of the elytra, basal segment elongate and clinb-shaped, second very short and thick, third and fourth equal, fifth somewhat longer, and the following segments slightly thickered. Prother ax somewhat broader than long, sides slightly roun od, with a marrow reflexed

2 R 2

margin, interior angles oblique, so that another distinct angle is formed before the middle of the side; disc rather convex, seen under a high power to be very finely punctate, shining Scutellum-triangular with apex rounded, surface smooth and impunctate. Elytra slightly wider at base than prothorax, extremely minutely punctate, some of the punctures tend to form one or two irregular rows, and no punctures are visible towards the apex; surface very finely rugose Underside posterior tibis with a distinct terminal spine first segment of posterior tarsi as long as the following segments together.

Length, 31 mm

KASHMIR BOMBAY: Satara, v. 1865 (Hobson)

Type in the British Museum. The example from Sataia in the British Museum has the following remarks on the label- "feeds on Pereskia aculeata, Mill, a species of cactus, found in thousands, the cactus is so bitter that its milky juice blisters the hands"

289 Aphthona lewis1, Jacoby.

Aphthona lews, Jac., Proc. Zool. Soc Lond 1887, p 85

Body oblong, parallel-sided, the apex rounded Colour shiningbrown, antennæ with the fifth to tenth segments black; elytra

black or piceous; scutellum obscure brown

Head impunctate, shining, frontal tubercles and interantennal carina not well developed. Antennæ two-thirds the length of the body, first segment much thickened, second almost as thick as first, third thinner than second and about equal in length thereto, fourth and fifth equal; the following segments much Protho ax twice as broad as long, sides straight, anterior angles obliquely truncate, so that a distinct augle is formed on each side before the middle; at each of the four lateral angles the setal pores are distinct, surface covered throughout with very fine but not very closely placed punctures. Soutellum triangular with the apex rounded, impunctate. Elytrahardly broader at base than prothorax, subcylindrical, shoulders prominently convex, surface more distinctly and more closely punctate than the protherax, the punctures being strong and Underside legs short, posterioi tibim without a confused terminal spine

Length, about 2 mm.

CEYLON Bogawantalawa (G. Lewis).

Type in the British Museum.

290 Aphthona azurea, Jacoby.

Aphthona azuren, Jac Ann. Soc Ent. Belg xl, 1896, p 256

Body broadly ovate. Colour metallic bright blue; antenna, tabiæ, taisi and scutellum black; breast and abdomen black with a slight bluish tint; legs more distinctly metallic blue,

Head impunctate; eyes large, frontal elevations narrowly oblique, clypeus with an acutely raised central ridge. Antennæ robust, extending beyond the middle of the elytra; first segment long and club-shaped, third and fourth equal, the following segments thickened Prothorax broader than long, sides nearly straight, narrowly margined, antenor angles oblique, so that a distinct angle is formed on each side before the middle, posterior margin broadly rounded but slightly produced at the middle, surface entirely impunctate Scutellum broader than long. Elytra wider at base than prothorax, slightly widened at the middle, with narrow lateral margins; surface finely and confusedly punctate, the punctures being a mixture of tiner and coarser, and the apex impunctate Underside first segment of posterior tarsi as long as the following segments together.

Length, 21 mm.; breadth, 11 mm.

BURMA - Prome

Type in the British Museum.

291. Aphthona indica, Jacoby.

Aphthona îndica, Jac, Mém. Soc Ent Belg vii, 1900, p. 120

Body oblong, parallel-sided Colour metallic green or bluish above; scutellum black, underside piceous; antenna and legs

light brown, the posterior femora stained with piceous

Head with vertex impunctate, frontal tubercles small but distinct. Antennæ extending nearly to the apex of the elytra; first segment long and club-shaped, second shorter than first, thicker than, but nearly equal in length to, the third, the following segments more elongate and about equal to each other. Prothorax somewhat broader than long, sides straight, slightly narrowed obliquely towards the base, anterior lateral angles oblique, surface obsoletely transversely depressed near the base, entirely impunctate. Scutellum small Elytra wider at base than prothorax, distinctly punctate in closely approximated semi-regular rows, which are indistinct near the apex Underside: first segment of posterior tarsi as long as the two following segments together.

Length, 2 mm.

CALCUITA.

Type in the British Museum

Evidently closely allied to A. splendida, Weise, from China, but the underside is not blue but pitchy-black, and the posterior femora are of the same colou; from A andrewess, Jac, and other somewhat similarly coloured species, the length of the antennæ and their entirely flavous colour, as well as the similar colour of the legs, will separate the insect described above

292 Aphthona andrewesi, Jacoby

Aphthona and ewest, Jac, Aun Soc Ent Belg al, 1896, p 250

Colour of the upper side metallic dark blue, that of the underside bluish-back, labrum and scutellum black, antenue with the four or five proximal segments brown, the basal segment staned with pitchy-blackish above, the four terminal segments blackish;

legs more or less pitchy, tibiæ rather paler

Head implinetite, with a few punctures near the inner margins of the eyes, frontal tubercles small, hunted behind by an oblique channel at each side, carma short, tuberculiorm extending beyond the middle of the elytia, the four ferminal segments thickened, basal regment long and club-shaped, second thicker than, and nearly as long as, the third, the lutter equal to the fourth, the following about equal Prothoras broader than long, sides moderately rounded, anterior lateral angles oblique. Scutellum tri ingulai Elytra broader at surface impunctate base than prothoras, finely and closely punctate, some of the punctures in the middle tend to form rows, which become rather Undersule prostermum very marrow, first obsolete at the anex segment of posterior this us long as the following segments together

Punjab Chamba Length, 13 mm Type in the British Museum

293 Aphthona pioxima, Jacoby

Aphthona proxima, Jac, Pioc Zool Soc Lond 1887, p 85

Body oblong Colour obscure piceous to black, the five or six busal segments of the antennæ in some cases wholly brown, or the two basal segments may be darker, the third is bright brown, the fourth dark and the fith again bright brown, the rest of the

segments black

Mead imprinctate, frontal tubercles distinctly raised, bases of antennæ very close together. Antennæ nearly half the length of the body (not as long as the body, as Jacoby states), rather robust, second segment nearly as stout as first but shorter, the three following segments more slender, of equal length, the rest slightly thicker. Prothorar braider than long, anterior angles oblique, with the pore of the anterior seta situated before the middle, sides rounded, humerus prominently convex surface finely and rather closely punctate. Elypia with a shallow depression behind the base, somewhat closely and strongly punctate. Underside legs short and robust, posterior tibus without a terminal spine

Length, 21 mm CLALON Balangoda (G. Lewis), Kandy, vn 1908 (G. E. Bryant)

Type in the British Museum

294 Aphthona vicina, Jacoby.

Aphthona vuma, Jac, Proc. Zoal Soc. Lond 1887, p 86

Body oblong Colour shining black, the third and one or two

following segments of the autennæ brown

Head with verter impunctate, with two deep, somewhat oblique, channels meeting in the middle, bases of antennæ very close, interantennal carina indistinguishable. Antennæ extending to about the middle of the elytra, first segment long and clubshaped, second shorter and much thicker than the third, which is slightly longer than the fourth, the following three equal, the last four more thickened. Prothorax broader than long, sides straight, anterior lateral angles truncate, surface granulate and sparsely punctate. Scutellum triangular with apex rounded and surface linely granulate. Elytra hardly broader at base than prothorax, humerus prominently convex, surface confusedly punctate, the punctures being more crowded round the scutellum and on the basal part. Underside posterior tibiæ without a spine at the apex

Length, 1½ mm.
CEXLON Dikoya (G Lewis)
Type in the British Museum

295 Aphthona ceylonensis, Jacoby

Aphthona reylonensis, Jac. Proc Zool Soc Lond 1887, p 85

Body ovate Colour obscure piceous, autennæ, apices of tibiæ, and taisi dark brown, the four or five terminal regiments of the antennæ more or less stained with fuscous

Head impunitate, frontal tubercles not well developed, area all round the bases of the antennæ excavated Autennæ nearly as long as the body, first segment much thickened, second equally thickened but smaller, third and the two following segments nearly equal to each other, smaller and thinner than second, sixth neither much thickened nor as thin as fifth, the tollowing seg-Prothorar much broader than long, sides slightly ments thicker rounded, auterior lateral ungles oblique, surface not very closely and finely punctate, the interstices extremely finely granulate. Scutellum triangular, broader than long, with the surface granulate. Elytra distinctly widened at the middle, inther convex, the shoulders rounded; closely and very strongly punctets the interstices somewhat ringose Underside first segment of posterior tars as long as the two following together, posterior tible will a minute terminal spine

Length, 14 mm
CEYLON Horton Plains, Dikoya, 3800-1200 ft, 21. i-i-1882 (G Lewis)

Type in the British Museum

The following three species of Motschilsky are included here, as they were described from Ceylon and India, and a translation of the original remarks under each species is given. They are not incorporated in the key on p. 367—

Aphthona nigrita, Motschulsky

Aphthona nigrita, Motsch, Bull Soc Nat Mosc xxxix, 1866, part 1, no 2, p 418

In form and coloni resembles A suphorbiæ [Europe], but somehat smaller Oblong-ovate, convex, shining, almost glabrous, black, onee of antennæ and legs pale, posterior femora black

Length, 1.9 mm . breadth, 14 mm [4 and 1 lin respectively]

CLYION from the mountains of Nuwaia Eliya

[7'he British Museum has an example doubtfully determined as this species]

Aphthona cyanipennis, Motschulsky

Aphthona cyanipennis, Motsch, t. c p 419

Following the remarks on the preceding species, this species is

proposed in the following words -

"On the Continent of India there exists one more species which in form, shape and colour resembles A conulea, Payk [Europe], but which has the head and prothorax reddish-brown I have named this A cyanipennis"

Aphthona viridifusca, Motschulsky

Aphthona wildifusca, Motsch, Etud Ent vii 1858, p 106

In size and form it resembles *H con ulea*, Payk * [Europe], but the colour of the upper side is more blackish. The femora are black in the middle, particularly the hind pair, the tibie and tarsi and the greater part of the antennæ brown the first segment of the latter, the mouth-parts, knees and bases of the tarsi testaceous. The pronotum is more rectangular, the anterior angles more prominent, and the philictuation finer. The elvtra are more parallel in front, the humeral angles more prominent, the punctuation coarser, much less close, and almost arranged in strike.

CEYLON (Nietner)

[The British Museum contains an example determined as this species]

^{*} Motschuleky wrote thue, "H canulca, Prvk', doubless meaning A [=Aphthona] carulca, Pnyk H canulca would properly mean Haltica carulca, which is Oliver's, not Pnykull's species

Genus PHYLLOTRETA, Stephens.

Phyllot, eta, Stephens, Manual But Col 1839, p 291, Foudras, Mulsunt's Col Fiance, Alusides, 1860, p 230, Chapure, Gen Col x1, 1875, p 73, Fowler, Col Brit Is. 1v, 1890, p 361

GENOTIPE, Chrysomela nemorum, L. (Syst Nat ed x 1758, p. 373; Europe)

Body oblong, almost parallel-sided. Head as broad as the prothorax; eyes small, trontal tubercles not very strongly developed, interantennal carina short Antennæ extending to the middle of the elytia or a little distance beyond, first segment club-shaped, second and third small, either the fourth or both the fourth and fifth comtanies much enlarged in the male Prother as broader than long, sometimes slightly narrowed in front, front and hind borders almost straight, sides slightly rounded, front and huid angles rounded, or the posterior angles sometimes right angles and the unterior somewhat thickened, surface gently convex, without any impressions. Scutellum small, sometimes not out-Elytra hardly broader at base than prothorax, wardly visible oblong-ovate, more or less convex, generally confusedly punctate, sometimes the punctures tend to form lows Underside. prosternum very narrow between the coxe, front and coxal curities open behind, posterior femora strongly incressate; posterior tibiæ slender, not channelled on the outer side and with a small spine at the apex, posterior this somewhat shorter than the corresponding tibia, the first segment equal in length to the following three together, claws simple.

Range World-wide

This genus contains many serious pests of cultivated crops

Key to the Species

1 Elytra unicolorous Elytra brown with a reddish-piceous longitudinal stripe L bu manica, Harold, p 377. 2 Colour black with a slight bronzy tint, fourth antennal segment in the male enormously expanded P oncera, sp n, p. 378 Coloui different 3 Colour metallic bronze with greenish or blussh reflections, posterior part of the surface of the elytra without ribs P chotanica, Duviv, p 379 Colour metallic green with a blinsh tint posterior part of the surface of the elvin with short longitudinal ribe P donness, Baly, p 380.

296 Phyllotreta birmanica, Ilai old

Phylloticta bii manica, Har , Mitt Munch Ent Vei 1, 1877, p 109

Body somewhat convex, shining. Head and prothorax redbrown, elytra brown, the suture in front and behind narrowly, and a longitudinal stripe extending from the humeral callus and confluent at the apex with the suture, reddish-piceous, antennæ piceous with the three basal segments entirely, and the fourth partly, ieddish-brown, legs entirely ied-brown, underside piceous.

Pronotum finely punctate Elytra very densely punctate, the punctures arranged to some extent in longitudinal series. Fifth segment of the antennæ in the male long and somewhat thickened.

Length, 2 mm.

BURMA

Type apparently unknown.

297. Phyllotreta oncera, sp nov.

Body oblong, parallel-sided Colour black, with a slight bronzy tint, the points of articulation of the segments of the legs and the three basal segments of the antennæ brown.

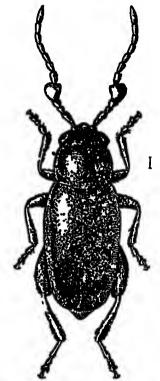


Fig 126 - Phyllotreta oucora, Maulik

Head with the vertex impunctate, but the surface finely reticulate, trontal tubercles completely absent, interantennal carina broad, eyes not prominent. Antennæ one millimetre shorter than the length of the body, first segment long, second very small, almost globular, third broadened at the apex, fourth enormously expanded and flattened in the male, the following segments more or less nearly equal, and not very elongate.

Prothonax almost quadrate, sides gently rounded, posterior lateral angles widely rounded, anterior almost right angles, surface closely punctate, the punctures being as strong as those on the elvira, and under a high power the whole surface appears to be iniely reticulate. Scatellum normally invisible Elytra very slightly broader at base than prothorax, closely punctate, seen under a high power the whole surface is finely reticulate Pygidium exposed Underside sparsely covered with fine limits, posterior tibuse broader at the apex than at the base, the outer side flattened, each lateral edge of this flattened surface set with fine spinules and the apex furnished with a spine, first segment of the posterior tarsi equal in length to the following two together, claw-segment long.

Length, 21 mm

UNITED PROVINCES Almoin, Kumaon (H G Champion),
Type in the British Museum Described from one male example

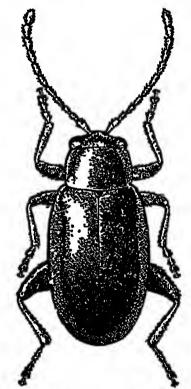


Fig 127 - Phylloticla choluntea I uviriei

298 Phyllotreta chotanica, Duviviei

Phylloticia chotanica, David , Ann Soc Ent Belg 1277, 1892, p 426; Jacobi, Ann Soc. Ent. Belg 1, 1896, p 258.

Body small, narrow, oblong Colour of the upper side metallic

bronze with greenish or bluish reflections; underside and antennæ black, knees and tarsi brownish.

Head with front impunctate and bearing short whitish hairs, interactennal carina sharply elevated, vertex shining, impunctate. Antennæ extending a little beyond the middle of the elytra, first segment long and thickened, second much shorter than first, third slightly longer than second, fourth slightly longer than third, fifth about equal to fourth, sixth somewhat shorter; the following segments somewhat thickened Protho av broader than long, very slightly narrowed in front, sides very feebly rounded, surface, seen under a high power, finely granulose and closely covered with punctures Scutellum small, trangular, with apex rounded and surface shining and impunctate Elytia hardly broader at base than prothorax, separately rounded at their apices, closely covered with punctures similar to those of the pronoture

Length, 2 mm, breadth, 3 mm

DARJEELING Kurseong (P Bract; type-locality)

Type in the Brussels Museum.

299 Phyllotreta downesi, Baly.

Phyllot eta dononess, Baly, Trans Eut Sox Lond 1877, p 300

Body elongate Colour metallic green with a bluish tint; antennæ black, the three basal segments piceous, suffused with bronzy-black, underside black, posterior femora metallic green,

scutellum shining black

Head with a tew minute scattered punctures, frontal tubercles quadrangular, contiguous, the surface behind them faintly rugulose, the interantennal carina straight sharp. Autoine more than two-thirds the length of the body, first segment long and clubshaped, according to Buly the second and third segments are short and equal, but I have no means of verifying this statement, because the type-specimen lacks all the segments except the first Prothorax broader than long, basal margin almost straight with a slight median lobe, sides usually parallel, rounded and converging to the front margin, anterior lateral angles thickened, obliquely truncate, the posterior pair right angles, surface granulose, rather closely covered with shallow round punctures Scutellum trangular, with apex counded and with surface smooth and Elytra narrowly ovate, hardly broader ut base than impunctate prothorax, more deeply punctate than the pronotum, the punctures are close together and have some arrangement in longitudinal lows, interspaces granulese, behind the middle there are some distinctly raised ribs Underside smooth, shining, nearly impunctate, posterioi tibize ending iii a spine

Length, 3½ inm

Bombay (Dr. E Downes) Tenasseria Tavoy (Doherty),
there are four specimens reterable to this species in the British
Museum from this locality; in these the second and third unternal

segments are short but the latter is slightly longer than the second, the fourth is much longer than the third, the rest about equal, also in some of these examples the postmedian elytral ribs are not prominent.

Type in the British Museum.

Genus MORYLUS, Jacoby.

Morylus, Jac, Proc. Zool. Soc Lond 1887, p 99

GENOTYPE, Morylus fulvipennis, Jac.

Body ovate, convex. Head trontal tubercles reduced to two ridges extending to the interantennal space and enclosing a deep furrow. Eyes large, entire Penultimate segment of the labial palpi thickened, the terminal segment being small, conical, and pointed Antenna long and more or less stout. Prothorax broader than long, anterior angles obliquely and slightly expanded. Scutellum broader than long with the surface finely shagreened. Elytra confusedly punctate. Underside epipleura of the elytra narrowly extended up to the apex. Prosternum broad, anterior coxal cavities open Mesosteinum much broader than long Posterior tibia deeply channelled on their upper side, posterior femora strongly incrassate; first segment of the posterior tarsi almost as long as the two following segments together, claws appendiculate.

Range Ceylon.

300. Morylus fulvipennis, Jacoby

Morylus fulcipennis, Jac , Proc Zool Soc Lond 1887, p 99

Body ovate, convex Colour of elytra dark shining brown; underside pitch-brown, nead, prothorax and legs black with

brownish tinge; terminal segments of antennæ black.

Head: vertex convex, impunctate, delimited from the front by a deep transverse channel; between the antennæ there is a deep longitudinal furrow, bounded on each side by a ridge which bends round, meeting the eye and enclosing a large concave area round the root of the antenna, these nidges can be said to be homologous to the frontal tubercles; the concave area between the eye and the root of the antenna extends forwards to the base of the mouth-parts. Antennæ somewhat robust and a little shorter than the length of the body, first segment long, club-shaped, second thickened but shorter than the third, which is slender and almost equal to the fourth, the fifth is also of about the same length as the preceding segment but stouter, from the sixth onwards the segments become thicker, opaque, and sparsely covered with bristly hairs Prothorax broader than long, basal margin widely arcuate, sides straight, each of the posterior angles possesses a seta-bearing pore, and at each anterior angle the margin is slightly expanded, having an oblique straight edge.

and the angle itself possessing a seta-bearing pore, surface convex from side to side, smooth and impunctate Scatellum broader than long, triangular, with apex broadly rounded and surface finely shagreened Eigtra hardly broader at base than prothorax, but becoming broader immediately beland, humerus raised,

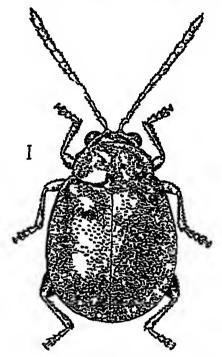


Fig 128 - Morylus fulcipsums, Juc

convex and impunctate, the entire surface is closely, niegularly and more or less deeply punctate. Underside abdominal sternites sparsely covered with long silvery hans, the other parts smooth and glabrous.

Length, 3 mm, length of antenna, 2½ mm Cerion (G Leicis)

Type in the British Museum

Genus SEBÆTHE, Baly.

— Sebathe, Balv, Ann & Mag Nat Hist (3) xiv, 1864, p 438. Chapui-, Gen Col vi, 1875, p 79

GENOTIFE, Haltica badia, Erichson (Philippine Is) Bily founded the genus on this species

Body oblong or oblong-orate, often broad, moderately convex Colour metallic or brown, or the upper side of the elytra has a pattern Head as broad as the prothorax, with vertex more or

less convex and either punctate or impunctate, vertex often separated from the front by an impressed line in the interocular space, this line forming the posterior boundary of the frontal tubercles, the latter always mesent but not much elevated, contiguous, separated by an impressed longitudinal line along the middle; interantenual carma always well developed, mouth-parts more or less exserted Antenne extending to a point between the middle of the elytra and the next but never beyond, first segment long and club-shaped, second always smaller than first and often than third; the relative lengths of the third, fourth, fifth and following segments vary, except the two or three basil segments all the others are always covered with fine hairs, a few of which are sometimes longer than the rest, the last segment is generally pointed. Prothorar always broader than long, somewhat narrowed in front, but the relative length and breadth vary, so that sometimes the prothorax appears more nearly quadrate than transverse; sides generally rounded, with margins somewhat explanate and reflexed; as a rule each of the anterior and posterior lateral angles bears a fine seta, and very often the former are thickened and sometimes slightly produced, anterior and posterior margins usually torming wide curves, surface either punctate or impunctate, sometimes it is very finely and spaisely punctate, to see which a high power must be used Scutellum triangular, often comparatively large, with surface smooth and impunctate Elytra sometimes distinctly though slightly broader at the base than the prothorax, often hardly broader, but immediately behind they are gradually broadened, sometimes they are nearly parallel-sided with the anex broadly rounded, lateral margins generally slightly explanate and reflexed; surface always confusedly and finely punctate, the punctures varying in their degree of closeness, and often stronger than those of the pronotum, when the latter is punctate, the apical edges and to a certain extent the lateral edges of the elytra hear sparsely distributed fine setiform hairs. anterior coxal cavities open behind; prosternum oblong-clongate with sides sinuate. Legs not very long, moderately robust; fibiæ channelled on the outer side; posterioi femura thickened and channelled on the under ide for the reception of the posterior tibies, which have a spine at their apex, flist argineut of posterior tarsi longer than the corresponding segment of the front and ruddle legs, and often equal to the two following segments of the hind tarsus together; clay-segment projecting be; and the bilobed segment; claws appendiculate. In the male the front and middle tarsi are sometimes expanded

In some cases there is a superficial resemblance between species of Sebæthe and those of Hyphasoma, but the two genera are differentiated by the latter having the first segment of the posterior tars inflated.

Range India, Malay Archipelago, Philippine Is. New Guinea, Indo-China, China and Japan

Key to the Species

1	Upper side, at least the elytra, metallic,	
	the colour being blue, green or purple	2
_	Upper side not metallic	7
2	Pronotum and ely tra concolorous	3
	Pronotum and elytra not concolorous	5
3	Body entirely shining dark blue, antennæ	
	black	S rectrcolles, Jac , p 386
	Body not entirely shining dark blue .	4
4	Colour above bright metallic blue, part	-
_	of the head and the three basal seg-	
	ments of the antenna brown, underside	
	blackish (length 51 mm, breadth	
		S 14 000
	Simm)	S nila, sp n, p 386
	Colour above deep brown with a purplish	0 - 1 - 1
-	gloss	S pyrobapta, sp n, p 887
5	Elytra dark metallic green, with lateral	88b q]_
	margins and the apex yellow-brown	S pallidicincta, Jac.
	Elytra deep violet or purple or bronzy-	
	violet .	6
6	Underside blackish, antennæ somewhat	
	stout, with the three basal segments	
	brown and the eight apical segments	
	blackish, insect larger (54-6 min long)	S robaphes, sp n, p 388
	Underside and the whole of the antennæ	
	brown, the latter slender, musect smaller	
	(43 mm long)	S toscopa, sp n, p 890
7	Head and pronotum pitch-brown to	o tocopia, sp n, p ooo
•	black, elytra yellow-blown	S to calculates Ol n 900
	No such combination of colours	S troglodytes, Ol, p 390
0		0
8	Disc of elytia entirely black, with the	
	margins and part, at least, of the	0
	suture, yellow-brown	S perata, sp n, p 391
	No such combination of colours	y
9.	Disc of elytra black, intersected by an	
	oblique brownish-tellow band which is	
	a continuation of the broad brownish-	
	yellow stripe on the posterior half of	
	the suture margins all round broadly	
	brownish-yellow	S fimbriata, sp n, p 392
	No such pattern on the elytra	10.
10	Elytra black or brownish-black all round,	
	with a pale otate of a transverse patch	
	on each	S lusca, Fabr, p 393
	Elytia with no such pattern	11
11	Each elytron black with two pale	
	patches, the extent of which varies	[p 394
	considerably	S quadi imaculata, Jac,
	Elytia with no such pattern, head, pro-	- Awar mineral
		13
10	notum and elytra entirely brown	
12	Pronotum entirely impunctate	18
	Pronctum punctate, with at least a few	75
	punctures . ~	15
13	Body parallel-sided, pronotum with ill-	O slaveste Too n 30%
	defined depressions	S elongata, Jac, p 397

Body not parallel-sided, pronotum with- out ill-defined depressions	14
14. Longer insects (5 mm), colour pale	
brown	S immaculata, Jac,
Smaller insects (4 mm.), more ovate;	
colour obscure brown	S. mtermedia, Jac , p. 396.
15. Suture with a piceous stripe, narrowed	0 -4 - 1 - Too 4 000
behind and not extending to the spex	S suturalis, Jac., p. 897.
Suture without any such stripe 16. Pronotum with a mixture of finer and	16,
coarser punctures, the former closer, the	
latter sparse	S ceylonenses, Jac., p. 397
Pronotum with no such airangement of	
punctures	17
17. Body not less than 5 mm in length,	-
generally 6 mm.	18
Body always less than 5 mm. in length .	21 19
18. Upper side brownish-yellow Upper side darker brown or fawn-	10
coloured	20
19. Colour richer, elytral punctures stronger,	
elytra more nearly parallel-sided; an-	
tennæ entirely brown	S. lychnites, sp. n., p 398.
Colour paler, elytral punctures feeble,	
elytra more widened behind, antenna	F. 000
black, except the two basal segments, which are brown	[p. 399.
20. Colour fawn-brown , antennæ more slen-	S. montwaga, sp. n,
der, piceous, the third segment dis-	[p 899.
tinctly shorter than the fourth	S. andamanica, sp. n.,
Colour clear brown, basal segments	, . ,
brown, the rest black, the third segment	
only slightly shorter than the fourth.	S brevicollis, Jac., p. 400.
21. Antennæ entirely brown, elytra red- brown	S comptee on m = 401
Antennæ not entirely brown, elytra not	S canotes, sp. n., p 401.
red-brown	22
22. Elytra strongly punctate	23.
Elytra extremely finely punctate	24
23. Body parallel-sided, pronotum less than	
twice as broad as long	S neelys, sp. n., p. 401
Body with sides more rounded, pro- notum more transverse, about twice as	
broad as long	S. patkara, sp n, p 402.
24. Body oblong, parallel-sided, pale brown-	o. puntata, ep 11, p 402.
yellow, antennæ hardly reaching the	
middle of the elytra, apices of posterior	
femora fuscous above	S pingala, sp. n , p. 402
Body with the sides rounded, dark	
brown, autenum reaching the middle of the elytra, apices of posterior femora	
not fuscous above	25
25 Smaller meets (33 mm long), reddish-	
brown, tarsi always black, first seg-	
ment of front and middle tarsi in the	
male dilated	S. nigritarsis, Jac, p 408.
VOL. II.	2 o

Larger insects (47 mm. long), brown without the reddish tint, tarsi not black, they may be somewhat piceous but are generally brown, first segment of front and middle tarsi not dilated in the male

S nigricoinis, Baly,

301. Sebæthe recticollis, Jacoby

Sebæthe secticollis, Jac, Ann Mus. Civ Genova, TVIII, 1892, p 924

Oblong-ovate. Shining metallic dark blue, antennæ black.

labrum piceous

Head with vertex impunctate and frontal elevations not strongly developed, the clypeus has the shape of a strongly elevated triangular ridge, labium with a few deep punctures; maxillary palpi with penultimate segment strongly incressate Antenne hardly extending to the middle of the elytra, opaque, pubescent, the first segment less so, long and somewhat thickened at the apex, second small, third somewhat longer than second, fourth about equal to third, the rest about equal to each other Prothorax scarcely twice as broad as long, somewhat narrowed in front, sides narrowly margined, anterior lateral angles oblique, expanded and with a seta-bearing pore, posterior acute and each with a fine seta, surface gently convex, finely and not very closely punctate. Scutellum triangular with apex rounded, smooth, shining, impunctate Elytra broader at base than prothorax, finely and not closely punctate, the punctures being similar to those of th Underside posterior tibiæ channelled, with a spine at the apex; first segment of the posterior tarsi equal in length to the two following together

Length, 31 mm

BURMA Karen Mts, Asciuii-Ghecù, 1400-1500 metres (= ca. 4590-4920 ft), iii-iv 1888 (Fea).

Type in the Genoa Museum.

There are two examples in the British Museum bearing Fea's printed labels with the above note of locality, and one of these is marked in such a way that I think it should be regarded as a cotype.

302 Sebæthe nila *, sp nov.

Body oblong-ovate. Colour above bright metallic blue (pronotum not so deep blue as elytra), underside blackish, head (except the vertex, which shares the colour of the prothorax), the three basal segments of the antennæ, the legs (except the tarsi, which are blackish), and the posterior femora (except the apex, which is blackish), brown, the eight apical segments of the antennæ blackish; scutellum black

^{*} Sanskrit, "blue"

Head with vertex closely and strongly punctate, the punctures more crowded towards the sides, leaving the middle comparatively free, and with a depression in the centre; frontal tubercles obliquely placed, impunctate, interantennal carina sharp Antennæ slender, extending a little distance beyond the middle of the elytra; first segment long and club-shaped, second very short. third about twice as long as second, fourth longer than third, fifth, sixth and seventh equal, the following four segments somewhat shorter than each of the immediately preceding ones, and equal to each other. Prothonax about twice as broad as long, somewhat narrowed in front, front margin widely emarginate, anterior lateral angles rounded, sides gently rounded, lateral margins somewhat explanate and reflexed; surface extremely finely and closely punctate, and on the background of these fine punctures there are scattered coarser punctures. Scutellum large, triangular, with surface impunctate. somewhat broader at base than prothoiax, humerus prominent, convex; lateral margins slightly explanate, punctuation similar to that of the pronotum, but the coarser punctures are closer and somewhat stronger. Underside sides of the breast, abdominal sternites, and legs covered with fine hairs

Length, 5\frac{1}{2} mm, breadth, 3\frac{1}{2} mm
Burma Ruby Mines (Doherty)

Type in the British Museum. Described from five examples.

303 Sebæthe pyrobapta, sp. nov.

Body oblong-ovate Colour above deep red-brown with a purplish-bronzy sheen, underside comparatively lighter brown, with the apex of the posterior femora blackish, antennæ, except

the three basal segments, blackish

Head strongly and closely punctate, with a transverse impressed line across the interocular space, in the middle of which is a shallow depression; frontal tubercles obliquely placed, interantennal carina sharp. Antennæ long, almost extending to the apex of the elytra, first segment long and club-shaped, second much shorter, third almost twice as long as second, fourth slightly longer than third; the following segments more or less nearly equal to each other. Prothorax about twice as broad as long, somewhat narrowed in front, sides very gently rounded, lateral margins expanded and reflexed, anterior lateral angles acute; surface very finely and rather closely punctate, the punctures being a mixture of finer and comparatively coarser Scutellum triangular, with the surface impunctate Elytra hardly broader at base than prothorax, anterior lateral angles rounded, humerus prominent and convex, lateral margins slightly explanate, surface closely and confusedly punctate, the punctures being much stronger than those of the pronotum, while besides this the whole surface has a fine rugulosity. Underside thinly covered with dine hairs.

Length, 4 mm.

BURMA Ruby Mines (Doherty)

Type in the British Museum Described from one example

304 Sebæthe pallidicincta, Jacoby.

Sebæthe pallidicincta, Jac, Ann Soc Ent Belg. xlvin, 1904, p 390

Colour yellow-brown, antennæ black with the basal segment entirely, and the two following segments at the base, brown; pronotum with five obscure small rounded fuscous spots disposed as follows four in a curved line across the middle, and the fifth (which is hardly recognisable) central in position, elytra dark metallic green, the lateral and apical margins vellow-brown, the latter broadly so; sides of the breast and apices of the posterior femora, as well as the knees and the tarm, black, scutellum black.

Head impunctate, frontal tubercles triangular Antennæ slender, extending to nearly the middle of the elytra, third segment one-half longer than second and hardly shorter than fourth, the following segments about equal Protho ax about two and a half times longer than bload, slightly narrowed in front, sides with a narrow reflexed margin, surface sparsely and finely punctate Scutellum broad, triangular, with apex rounded and surface impunctate Elytra broader at base than prothorax, very finely and closely punctate

Length, 51 mm, breadth, 31 mm

NILGIRI HILLS (Andrewes Coll) Travancore (see below)

Type in the British Museum

Closely allied to S flavolimbata, Jac, but distinguished by having the segments of the antennæ of different relative lengths, the prothorax shorter, more transverse and spotted, and the apices of

the posterior femora black

There is one example in the British Museum from Travancore Tea Company (G S Imray) which I consider to be a variety of this species; it has the obsolescent spots on the pronotum not visible, the maigins of the elytra dark metallic green (the apex being brown as in the typical form) and the yellow-brown colour darker.

305. Sebæthe iobaphes, sp. nov.

Body oblong-ovate Colour of elytra bronzy-violet or pure violet, head, prothorax, front and middle legs (except the tars), pro- and meso-sterna and the three basal segments of the antennæ, brown, the eight apical segments of the underside blackish. The coloration varies; the brown of the legs is often mixed with blackish, more so in some parts than in others, on the pronotum there may be ill-defined blackish patches; in one example (from S. Shan States, 4000 ft.) the brown is

389

replaced by bright yellow, while between the latter colour and the brown there are various shades of lighter brown, and the

apical sternite of the abdomen is sometimes brownish.

Head broad, distinctly punctate; frontal tubercles accentuated by a deep depression in the centre, interantennal carina well developed, broad. Antennæ rather stout, long, extending to a little distance beyond the middle of the elytra, first segment long, club-shaped, second much shorter, third about twice as long as second, fourth slightly longer than third, fifth about equal

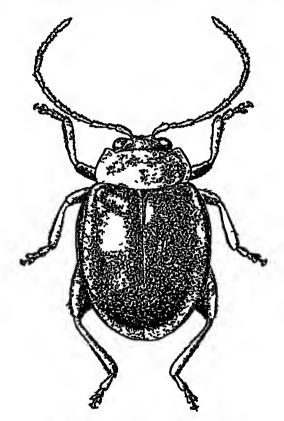


Fig 129 - Selecthe colonphes Moulik

to fourth, the following segments about equal to each other and very slightly thicker. Prothocar about twice as broad as long, somewhat narrowed in front lateral inargins expanded, reflexed and rounded, anterior lateral angles thickened surface finely and sparsely punctate. Scutellum large triangular, with surface impunctate. Elytra hardly broader at base than prothorax, anterior lateral angles well rounded, humerus convex, lateral margins slightly expanded and reflexed, surface confusedly, closely and distinctly punctate. Underside sparsely covered with fine hairs.

Length, $5\frac{1}{2}$ -6 mm.

BURMA: Ruby Mines (Doherty). Assam (W. F. Badgley). S. Shan States Kolaw, 4000 ft., iv 1916 (F M. Mackwood, this specimen is 6 mm long)

Type in the British Museum Described from six examples

306. Sebæthe ioscopa, sp. nov.

In form and superficial coloration strongly resembles S wobaphes, but differs in being smaller and in having the whole of the antennæ and all the legs (except the apices of the posterior femora, which are blackish) brown, and the breast and abdominal sternites blackish much mixed with brown. The antennæ in this species are more slender, and appear somewhat longer, than in S wobaphes, though the relative lengths of the segments remain the same. Head punctate, central depression more elongate, interantennal carina sharper. The punctuation of the pronotum and elytra, and the other characters, are as in S wobaphes

Length, 44 mm

BURMA Momenk [Moment] (Doherty)

Type in the British Museum Described from one example.

307. Sebæthe troglodytes, Olivier.

Altica troglodytes, Ol, Entomologie vi, 1808, p 700, pl 3, f 58
Sebæthe fulvipennis, Baly, Trans Ent Soc Lond 1877, p. 164
Sebæthe pallidipennis, Baly, Cist Ent 11, 1879, p 442, Jacoby,
Ann Mus Civ Genova, xxvii, 1889, p 203

Body ovate. Colour pitch-brown to black, with the elytra yellow-brown to darker brown. Sometimes the two or three basal segments of the antennæ and the reflexed lateral margins of the pionotum are brownish. The scutellum shares the colour of

the pronotum.

Head with vertex impunctate; frontal tubercles with an impressed longitudinal line between them and separated from the vertex by a transverse impressed line in the interocular space, interantennal carina well developed. Antennæ extending to about the middle of the elytra, first segment long and club-shaped, second small, third longer than second, fourth longer than third, from the fourth to the seventh the segments are somewhat thickened, fourth and fifth equal to each other in length, sixth and seventh also equal to each other, from the eighth to the eleventh the segments are somewhat thinner, and are about equal to each other in length Protho as broader than long, sides rounded with margins somewhat explanate and ieflexed, anterior lateral angles thickened and each of the four angles bearing a fine seta, surface smooth, shining, extremely finely and sparsely punctate. Scutellum triangular, with spex rounded and surface smooth and impunctate Elytia hardly broader at base than prothorax;

surface confusedly and finely punctate, the punctures not very close to each other, and stronger than those on the pronotum. *Underside* covered with fine hairs.

Length, 4-41 mm.

Bengal type-locality of A troglodytes, also Calcutta. Bihar: Chapra. Assam: Patkai Mts. (Doherty), Sadiya (Doherty); Assam Valley (Doherty), type-locality of S pallidipennis (A W. Chennell) Burma Ruby Mines (Doherty), Momeik [Momeit] (Doherty), type-locality of S. fulvipennis United Provinces: Dehra Dun, 14 v. 1913, Haldwani District, Kumaon, v. 1923 (H. G. Champion), Kosi R., 3000 ft, Rankhet in 1920 (H. G. Champion), Kumaon, West Bhatkot, 4000 ft., v. 1920 (H. G. Champion) China.

Type of Altica troglodytes (Bengal, Coll Macé) in the Museum d'Histoire Naturelle, Paris, those of S pallidipennis and S fulm-

pennis in the British Museum

Having carefully examined the types of S pallidipennis and S fulvipennis, I am of opinion that they are the same species. Probably Baly was justified in keeping them separate, not having many specimens before him. I believe that this species has a wide distribution, but the variation is not, apparently, correspondingly great.

308 Sebæthe perata, sp nov.

Body broadly ovate, shining Colour of the head, the three basal segments of the antennæ, the pronotum, a broad border all round the elytral margins, and the suture, dark brown to light yellow; the eight apical segments of the antennæ and the elytra black, but in one example the lighter colour of the suture extends from the apex forwards to behind the middle, in one case, also, the central part of the pronotum is fuscous, scutellum sharing the colour of the pronotum, underside fuscous or blackish; legs sometimes piceous, with the points of aiticulation and the tarsi darker in one example, but in the other the legs are lighter; epipleura of the elytra always lighter than the rest of the underside

Head with vertex impunctate, frontal tubercles with a fine longitudinal impression between them and separated from the vertex by a transverse impression in the interocular space, interantennal carina sharply raised. Antennæ slender, first segment long and club-shaped, second short, third longer than second, fourth slightly longer than third Protherax much broader than long, sides rounded, with their margins somewhat explanate and reflexed, anterior lateral angles somewhat produced and thickened; surface very sparsely and finely punctate Scutcllum triangular, with apex rounded and surface smooth and impunctate Elytra hardly broader at base than prothorax, surface more or less closely, finely and confusedly punctate, the punctures being

stronger than those of the pronotum Underside covered with fine hairs.

In the male the first segment of the front and middle tars is somewhat enlarged.

Length, 4½ mm. South India.

Type in the British Museum Described from two examples, one of which, with "India" only on the label, was collected by Bowring The male example has the brown parts of the body lighter, and the suture light coloured over about half its length. In the other example the pronotum has a fuscous patch and does not look so transverse as in the male.

309. Sebæthe fimbriata, sp nov

Body broadly ovate, shining Colour of head and one of two basal segments of the antennæ fuscous-brown, the head with an ill-defined smoky patch on the vertex, pronotum brownish-yellow. with a large ill-defined smoky patch on the disc, scutellum brownish-yellow with the base piceous, elytia with the disc black and the margins all round broadly brownish-vellow, the posterior half of the suture as equally brownish-vellow, and this colour is continued on each elytron obliquely as a band which, broadly bifurcating on the post-humeral part of the surface, reaches the basal and the lateral margins, the branch reaching the lateral margin interrupting the black colour and isolating an oblong black patch on the humerus, in such cases there are, however, truces of blackish-brown colour indicating that the isolated humeral black patch might have been continuous with the black colour of the disc, the edges of the black parts, where they meet the brownish-yellow, are pitch-brown, general colour of underside yellow-brown, the tibiæ, tarsi, apices of the posterior femora and sides of the breast smoky black

Head with vertex impunctate, frontal tubercles with a fine longitudinal impression between them and separated from the vertex by a transversely impressed line in the interocular space, which is somewhat depressed, interantennal carina shaiply raised. Antennæ with first segment long and club-shaped, second small, third much longer than second, tourth somewhat longer than third. Protherax much longer than broad, sides rounced with their margins somewhat explanate and reflexed, anterior lateral angles somewhat produced and thickened, each of the four angles bearing the usual fine seta, surface, seen under a high power, more or less closely and finely punciate. Scutellum triangular, with surface smooth and impunctate. Elytra hardly broader at base than prothorax, the whole surface confusedly, and more or less closely, punctate, the punctures being larger

than those on the pronotum.

Length, 51 mm. NILGIRI HILLS (G F Hampson) Type in the British Museum Described from one example

310 Sebæthe lusca, Fabrusus

Chiocens lusca, Fabr , Syst Eleuth 1, 1801, p 456 Spheroderma lusca, Gemminger and Harold, Cat Coleopt xii, 1876, p 3548

Sebæthe lusca, Duvivier, Cat Chrys Haltic Galeruc., Mem. Soc

Roy Sci Liège, (2) 11, 1885, p 34 Var variabilis, Jacoby, Ann Mus Civ Genova, xxii, 1885, p. 48. Var. bipustulata, Jacoby, Novitates Zool 1, 1894, p 291

Body oblong-oyate Colour of prothorax generally brown, but it may be pitch-brown to black; the three basal segments of the antennæ blown but similarly varying to black, the eight apical segments always blackish, the central part of each elytron is always pale yellowish, while the remaining portions are dark pitch-blown to black, generally the latter, underside varying from fuscous to black, even when it is fuscous some paits, such as a large area on the posterior femora, are blackish, scutellum generally sharing the colour of the pronotum

Head with vertex impunctate, frontal tubercles with a finely impressed longitudinal line between them and separated from the vertex by a more strongly impressed transverse line, interantennal carina sharply raised Antennæ extending to about the middle of the elytra, first segment long and club-shaped, second small, third longer than second, fourth longer than third, from the fifth to the last the segments are somewhat thicker, fifth, sixth and seventh equal, each of the following segments somewhat shorter but equal to each other Prothorax broader than long, sides rounded, with their margins somewhat explanate and reflexed. anterior lateral angles thickened, each of the four bearing a fine seta; surface almost impunotate, but seen under a high power to be extremely finely and sparsely punctate, the punctures varying to a certain extent as regards the depth of their impression Soutellum triangular, with apex rounded and surface impunctate. Elytra somewhat broader at the base than prothorax, surface finely, confusedly and more or less closely punctate Underside thinly covered with fine hairs.

Length, 43-5 mm

MALAY PENINSULA Pelak (Dollerty), Penang, a 1913 (G E. Merang (Doherty); Engano Is. Bryant) JAVA. SUMATRA (Doherty) Ager Mantesor, vin 1878 (D Beccari) BORNEO: Pengaron (Doherty) Paungde, Momerk [Momert] and BURMA Karen Mts (Doherty), Tharrawaddy, Bhamo Ilills, 4000 ft, v. 1916 (F M Mackrood)

Type of Criocers lusca, Fabr in the Copenhagen Museum

(Sehestedt Coil, collected by Daldorff in Sumatra)

Var. variabilis, Jacoby

Jacoby described this variety as a distinct species from Sumatra; the Burmese examples before me differ from the normal form in that the pale elytral patch is enlarged to such an extent that it occupies the greater part of the elytron.

Type in the Genoa Museum

Var bipustulata, Jacoby

In this form, described from Perak, there are only two colours, the whole insect is black and the elytral patch is a transverse band across each elytron. This colour character seems to be constant. All the specimens here recorded were collected by Doherty from the following localities.

BURMA Karen Mts, Momeik [Momeit] Assam Sadiya,

Patkaı Mts

Type in the Genoa Museum.

311. Sebæthe quadrimaculata, Jucoby

Schathe quadi maculata, Jac, Ann Mus Civ Genova, xxxii, 1802, p 922

Body oblong-ovate Colour pitch-brown to black, sometimes the three basal segments of the antenne are pitch-brown like the general colour of the body, the remaining segments being black, a basal and a post-median area on each elytion are pale yellowish, but never extend either to the lateral edges or to the suture, even when they attain their maximum extent, underside pitch-brown or lighter, the apieces of the posterior femora usually black

Head with vertex impunciate except for one or two scattered punctures, frontal tubercles broad, with a faintly impressed line between them, and separated from the vertex by a deeply impressed transverse line in the interocular space; interantennal carma sharp Antennæ extending slightly beyond the middle of the elytra, first segment long and club-shaped, second small, third longer than second, fourth longer than third, from the fifth to the last the segments are more or less nearly equal to Prothoraa broader than long, sides rounded with each other then margins somewhat explanate and reflexed, anterior lateral angles thickened, each of the four angles bearing a fine long seta, surface smooth, shiming, apparently impunciate but, seen under a high power and in a sintuble light, very fine and sparsely distributed princtures are visible, some of them, especially those on the basal part, comparatively stronger, the punctures are more visible in specimens in which the pronotion is pitch-brown than in those in which it is black Scutellum triangular, with apex rounded and surface smooth and unpunctate Elytra somewhat broader at base than prothorax; surface confusedly, finely and more or less closely punctate Underside covered with fine hairs

Length, 5 mm.

BURMA. Karen Mts. (Fea; type-locality). See also remarks below.

Type in the Genoa Museum.

Jacoby described this species from one example. I have before me five examples, all collected by Doherty from Burma, four of them from the Ruby Mines and one from Momeit, and another example from Sikkim (Mungphu) collected by Atkinson. two of the Ruby Mines examples the pronotum is pitch-brown, and the pale patches on the elytra have expanded to such an extent that the dark colour is reduced to a transverse band; in the other Burmese examples the dark colour forms a much broader band, reducing considerably the paler areas; in the example from Mungphu, Sikkim, these latter are four rounded patches. Thus it is seen that the relative proportion of the dark and pale parts on the elytra varies a great deal, as also the degree of intensity of the pitch-brown or black colour Moreover, Baly described Sebæthe quadrepustulata (Ent Mo Mag xm, 1876, p 80) from Java, and in this form the same pattern on the elytra is observable It is quite probable that the Burmese form is a variety of the Javanese, or vice versa I believe that specimens with the elytral pattern described above, occurring in Sumatra, Java, Borneo and Burma and extending to Mungphu, probably constitute a single species which tends to produce local races

312. Sebæthe elongata, Jacoby.

Sebæthe elongata, Jac., Ann Mus Civ Genova, xxxii, 1892, p. 922.

Body elongate, parallel-sided. Colour pale brown; the three basal segments of the antennæ brown, the rest fuscous, legs

rather darker, abdominal sternites also slightly darker

Head impunctate, frontal tubercles well developed, subquadrate; eyes very large; lower portion of the face deflexed, rather concave, maxillary palps not much thickened. Antennæ extending almost to the end of the elytra, the third and following regments elongate and more or less nearly equal to each other. Prothorax more than twice as broad as long, not narrowed in front, sides slightly rounded, with a rather broad margin, surface impunctate, with several ill-defined depressions. Elytra parallel-sided, rather broadly margined, very closely and finely punctate. Underside: first segment of posterior tars rather longer than the two following segments together

In the female the antennæ are much shorter.

Length, 5 mm

BURMA Karen Mts (Fea)

Type in the Genoa Museum I have not seen the type of this species

313. Sebæthe immaculata, Jacoby.

Sebæthe ummaculata, Jac, Ann Mus Civ Genova, xxxii, 1892, p 923

Body comparatively narrow, elongate. Colour pale brown; the three basal segments of the antenna brown, the rest black, sometimes the fourth segment is also brown, posterior femola

blackish at the aper

Head with vertex impunctate, frontal tubercles well developed. separated by a longitudinal impressed line, interocular space with a transverse impressed line, interantennal carina shaip Antennæ scarcely extending to half the length of the body, first segment long and club-shaped, second small, third longer than second, fourth about equal to third, the following segments more or less nearly equal to each other, amongst the hairs on the antenne, a few on each segment, particularly on the apical segments, are Protherav much longer longer and stand out more prominently than broad, sides counded, lateral margins somewhat explanate and reflexed, anterior lateral angles thickened, surface impunctate (in two specimens from the localities named below, which are in the British Museum and bear Keas labels and Jacoby's labels of identification, I can see no punctures on the pronotum, even when it is magnified sixty-six times, jet Jacoby states that the pronotum is extremely finely punctite) Scutellum broad, triingular, impunctate Eliftia hardly broader at base than prothorax, surface very finely and more or less closely and confusedly punctate Underside first segment of posterior tarsi somewhat longer than the following two together

Length, 5 mm

TENASSERIM Kunkatork [Kankatect] (Fen) Burma Palon,

Pegu, vin-ix 1887 (Fca).

Type in the Genoa Museum. There are also two examples in the British Museum, one of which (from Temasterian) is marked "type"

314. Sebæthe intermedia, Jacoby

Sebæthe intermedia, Jac, Ann Soc Ent Belg, Alin, 1903, p 105

Body elongate-orate Coloni obscine brown, antennæ (except the two basal segments, which are brown) black, sometimes the

posterior taisi are piceous

Head with vertex impunctate, interocular area with an impressed transverse line, frontal elevations more or less transgular in shape, interantennal carina well developed. Antennæ extending to about the middle of the elvtra, hist segment long and clubshaped, second much shorter, third longer than second, the third and following segments more or less nearly equal. Prothorax about twice as broad as long, sides strongly rounded, with narrow reflexed margins, anterior angles slightly pointed, posterior

obtuse; surface impunctate Scutellum broad, triangular, with the apex rounded, impunctate Elytra extremely finely and remotely punctate, the apical margins furnished with single setalike hairs Underside: first segment of posterior tarsi nearly as long as the following segments together.

Length, 4 mm. NILGIRI HILLS (Andrewes Coll.). Type in the British Museum

315. Sebæthe suturalis, Jacoby

Sebæthe sutes alis, Jac, Proc Zool. Soc Lond. 1887, p 91.

Body oblong-ovate Colour dark brown; antennæ (except the three basal segments, which are brown) fuscous, a more or less distinct sutural stripe, narrowed behind and not extending to the apex of the elytra, piceous, sometimes the apieces of the middle and posterior tibiæ and their corresponding tarsi are blackish.

Head not longer than broad, impunctate, frontal tubercles well developed, transverse and nearly contiguous, interantennal carina short but distinct. Antenne two-thirds the length of the body, first segment long and club-shaped, second thick and small, third one-half longer than second but slightly shorter than fourth, fifth to seventh equal, the rest somewhat stouter. Prothorax three times as broad as long, sides slightly rounded and narrowly margined, margins reflexed, anterior angles thickened, surface somewhat convex and, seen under a high power, very finely and sparsely punctate. Scittellum broadly triangular, impunctate. Elytra hardly broader at base than prothorax, slightly widened towards the imiddle, their apices rounded, the sides with a narrow reflexed margin, surface very finely and moderately closely punctate. Underside first segment of posterior tarsi as long as the two following together

Length, 4 mm.

CELLON Dikoya, 3800-4200 ft, 6 xn 1881-16 1 1882 (G. Lews)

Type in the British Museum

316 Sebæthe ceylonensis, Jacoby

Sebathe ceylonensis, Jac, Proc Zool. Soc Lond 1887, p 91

Body oblong-ovate Colour obscure brown, in some examples the seven apical segments of the antennæ and the legs are blackish

Head with vertex almost impunctate; eyes very large, interocular space with a deeply impressed transverse line, frontal tubercles broad, interantennal carina well developed. Antennæ two-thirds the length of the body, slender, first segment long and club-shaped, second small, third longer than second, fourth slightly longer than third, fifth to seventh about equal and the following segments equal to each other. Prothorax much broader than long, sides rounded and narrowly margined, margins reflexed, surface finely and more strongly punctate, the stronger punctures sparsely distributed, the finer punctures closer. Scalellum triangular, impunctate. Elytia hardly broader at base than prothorax, widened towards the middle, very closely and finely punctate, the punctures being stronger than those of the pronotum.

Length, 4-51 mm.; breadth, 3-31 mm.

Carlor Bogawantalawa (G. Lewis), Kandy (type-locality), 1546-1727 ft, 17-23. 11 1882 (G. Lewis), Balangoda, 1776 ft, Galle, on coast level, 27. x1-1 x11 1881, Colombo, 27. x1-4 x11. 1881, Kitulgalle, 1700 ft, 17-20 1. 1882; Nuwara Eliya, 6234-8000 ft, 8 11 1882 (collected by G. Lewis from all these localities)

Tupe in the British Museum.

This species shows certain abnormalities, in that in one and the same specimen the two antennie may be differently coloured, or one elytron may differ from the other in coloration. It is unfortunate that Jacoby selected one such example as the type.

317. Sebæthe lychnites, ap nov.

Body oblong Colour clear shining brownish-vollow; scatellum

darker; eyes block

Head with vertex impunctate, frontal tubercles oblique with a deep impressed line between them, interacted in carina sharply raised, clypens concave. Antennæ skinder, extending to about the middle of the clytra; first segment long and club-shaped, second small, third about twice as long as second, fourth about as long as third (in certain aspects the fourth may appear to be slightly longer than the third), fifth and following segments somewhat shorter and about equal to each other much longer than broad, sides rounded with their margins somewhat explanate and reflexed, each of the four interal angles with a line seta, surface sparsely and distinctly principle Scutellum triangular, amooth and impunctate Elytra slightly broader at base than prothorax, more or less parallel-sided, margins somewhat explanate, surface confusedly, distinctly and more or less closely punctate, the punctures more strongly impressed than those of the pronotum Underside covered with fine hairs; abdominal sternites punctate.

Length, 6 mm, breadth, 31 mm Burma Ruby Mines (Doherty)

Type in the British Museum Described from one example, in which there are some black spots on the pronotum and on the left elytron and one or two on the right elytron, but these appear to be accidental.

318 Sebæthe montivaga, sp nov.

Body oblong-ovate, somewhat broadened behind the middle. Colour pale brownish-yellow; the basal part of the elytra is somewhat darker, possibly the unique example was not quite mature when captured and, had it been so, the whole of the elytra might have been darker, eyes black, antennæ black, with the two basal segments brown; tibiæ and tarsi of all the legs pitch-brown

Head with vertex impunctate, frontal tubercles oblique with a deep impression between them, and separated from the vertex by two oblique lines meeting the median line in the centre, at the apex of each of these oblique lines there is a little depression. Antennæ slender, extending to about the middle of the elytra: first segment long and club-shaped, second small, third much longer than second, fourth somewhat longer than third, fifth to seventh equal to each other in length; the next four segments somewhat shorter and equal to each other Prothorax about twice as broad as long, sides rounded, with their margins somewhat explanate and reflexed, anterior lateral angles thickened. surface very finely and sparsely punctate. Scutellum triangular, with apex rounded and surface impunctate Elytra slightly broader at base than prothorax, surface confusedly and huely punctate, the punctures not so fine as those on the pronotum. Underside covered with fine hairs.

Leagth, 6 mm, breadth, 4 mm

BURMA Karen Mountains (Doherty)

Type in the British Museum. Described from one example

319 Sebæthe andamanıca, sp nov

Body oblong Colour fawn-brown, eyes black antennæ

Diceons

Head with vertex impunctate, interocular space with a transverse impression and a central depression, frontal tubercles and interantennal carina developed. Antennæ slender, extending to about the middle of the elytia, first segment elongate and clubshaped, second small, third longer than second, fourth distinctly longer than third, fifth to seventh equal, very slightly thicker, the last four segments somewhat shorter, appearing thinner and equal to each other Prothorax about twice as broad as long, sides rounded, with their margins somewhat explanate and reflexed, anterior lateral angles thickened, surface very finely and spaisely punctate. Soutellum triangular, with the surface smooth and impunctate. Elytra slightly broader at base than prothorax; surface confusedly and more or less closely punctate, the punctures being more strongly impressed than those of the pronotum. Underside covered with fine hairs

Length 5 mm, breadth, slightly less than 3 mm

ANDAMAN ISLANDS (Captain Wimberley).

Type in the British Museum Described from two examples.

320. Sebæthe brevicollis, Jacoby.

Schathe brevicollis, Jac , Ann Soc Eut. Belg. alvii, 1903, p 106

Body oblong-ovate. Colour brown; the three basal segments

of the antennæ brown like the body, the rest black.

Head impunctate, vertex sharply delimited from the front by a deeply impressed transverse line, frontal elevations transversely subquadrate, interantennal carina sharp. Antennæ extending beyond the middle of the elytra, first segment club-shaped, second small, third equal to fourth, the next and the following segments somewhat shorter and about equal to each other

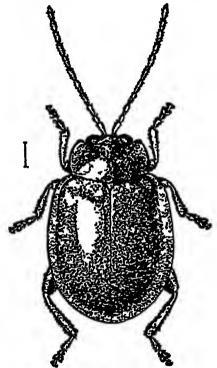


Fig 130 - Sebæthe brevicollis, Jac.

Protherar not more than twice as broad as long, sides rounded, narrowly margined, margins reflexed, anterior angles oblique and thickened, surface extremely minutely punctate Scutellum triangular, with apex rounded and surface impunctate Elytra broader at base than prothorax, lateral margins somewhat explanate, the explanate margin being clearly delimited along the inner side by a line, surface finely and rather closely punctate

Length, 5-6 mm., breadth, 3½-33 mm South India. Anaimalu Hills (Andrewes Coll)

Type in the British Museum

401

321 Sebæthe cænotes, sp nov.

Body ovate Colour entirely red-brown, eyes black

Head impunctate, across the interocular space is a strongly impressed line, frontal tubercles with a longitudinal impressed line between them, interantennal carina sharp. Antennæ extending to the middle of the elytra, first segment long and clubshaped, second small, third longer than second, fourth somewhat longer than third, the following segments about equal to each other Prothoral about twice as broad as long, sides gently rounded, with their margins feebly explanate and reflexed, anterior lateral angles somewhat produced; surface smooth, very finely and sparsely punctate. Scatellum triangular, surface smooth and impunctate. Elytra hardly broader at base than prothorax, surface confusedly and finely punctate, the punctures being not very close together. Underside covered with fine hairs.

SEBÆTHE

Length, 31 mm

TENASSERIM Mergui (Doheity)

Type in the British Museum Described from one example.

322 Sebæthe neelys, sp nov.

Body oblong, parallel-sided, with the apex rounded Colour dark brown, the eight apical segments of the antennæ black, the

basal three brown (except in one example)

Head with vertex impunctate, frontal tubercles with a longitudinal impressed line and separated from the vertex by a transverse impressed line across the interocular space, interantennal carina sharp. Antennæ extending to a little distance beyond the middle of the elytra, first segment long and clubshaped, second small, third longer than second, fourth hardly longer than third, the following segments about equal to each other, the last but one shorter Prothorav broader than long (but distinctly less than twice as broad as long), sides rounded with their margins somewhat explanate and reflexed, anterior lateral angles slightly produced and thickened, surface smooth, with a few scattered, fairly strong punctures on the basal part, some of these punctures being stronger than others, while the front part is impunctate Soutellum triangular, with the surface smooth and impunctate Eliptra somewhat broader at base than prothorax, lateral margins reflexed surface more or less closely. confusedly and fairly strongly punctate Underside covered with fine hans

Length, 31 mm

BULVA Ruby Mines (Doherty)

Type in the British Museum Described from four examples

YOL II

323. Sebæthe patkara, sp nov.

Body ovate Colour bright brown to dark brown, the two basal segments of the antennæ brown, the third piceous and the rest black; the central part of the abdominal sternites may be fuscous

Head with vertex impunctate, frontal tubercles separated from the vertex by an impressed line across the interocular space, and with a longitudinal impressed line between them, interantennal carna developed Antennæ extending beyond the middle but not reaching the apex of the elytra, first segment long and clubshaped, second small, third longer than second, fourth hardly longer than third, the following segments are more or less nearly equal to each other, but the last but one may be slightly shorter. Protherax more transverse than in S neelys, about twice as broad as long, sides rounded, with their margins somewhat explanate and reflexed, anterior lateral angles thickened; surface smooth, more punctate on the basal than on the front part triangular, with surface smooth and impunctate Elutra somewhat broader at base than prothorax, lateral margins slightly reflexed, surface more or less closely and confusedly punctate, the punctures being fairly strong Underside covered with fine häirs

Length, 3-3½ mm.

ASSAM. Patkai Mts (Doherty), Manipur, one example (Doherty).

Type in the British Mnseum Described from four examples

324. Sebæthe pingala*, sp nov

Body oblong, parallel-sided Colour pale brownish-yellow, the seven apical segments of the antennæ black, the fourth segment piceous, and the three basal segments vellow-brown, apices of

posterior femora above, and the breast, fuscous

Head with vertex impunctate, interocular space with a transverse impressed line, interantennal carina shaip. Antennæ hardly extending to the middle of the elytra, first segment long and club-shaped, second small, third longer than second, fourth slightly longer than third, from the fifth the segments are more or less nearly equal. Prothorax breader than long, sides rounded, with margins somewhat explanate and reflexed; surface finely and sparsely punctate. Scutellum triangular, with apex rounded and surface smooth and impunctate. Elytra hardly broader at base than prothorax, lateral margins somewhat explanate, surface confusedly, finely and more or less closely punctate. Underside thinly covered with fine hairs.

Length, 41 mm

TENASSERIM: Tayoy (Doherty)

Type in the British Museum Described from one example.

^{*} Sanskrit, meaning a brown colour

325. Sebæthe nigritarsis, Jacoby

Sebæthe mgritaisis, Jac, Ann. Soc Ent. Belg xlvii, 1903, p. 106.

Body oblong-ovate Colour reddish-brown above, underside paler, labrum brown, antennæ (except the three basal segments,

which are brown) and tarsi black

Head with vertex impunctate, interocular space with a deeply impressed transverse line, frontal tubercles transverse, interantennal carina well developed. Antennæ hardly extending to the middle of the elytra, first segment long and club-shaped. second short and stout; the third, in the three male examples before me, is somewhat stouter than the same segment in the one female example, where it is distinctly but slightly longer than the second, while in the male, perhaps owing to its comparatively stouter shape, it may appear to be nearly equal in length to the second, the following thicker and about equal to each other. Prothorax about twice as broad as long, sides rounded, anterior angles slightly produced outwards, lateral margins nerrowly reflexed, surface sparsely scattered over with minute punctures. Scutellym broad, triangular, with the apex rounded and surface Elytra hardly broader at base than prothorax, slightly widened towards the middle, with narrow reflexed margins, surface minutely and closely punctate. Underside: epipleura of the elytra broad and concave, the first segment of the front and middle tars in the male is enlarged, first segment of posterior tarsi elongate

Secondary sexual characters are noted under the antennæ and

tars

Length, 37 mm

SOUTH INDIA. Anaimalai Hills (type-locality, Andrewes Coll.).

Type in the British Museum.

326 Sebæthe nigricornis, Baly.

Sebæthe nigi icornis, Baly, Trans. Ent Soc. Lond. 1877, p 164.

Body ovate, moderately convex Colour shining dark to pale brown, the three basal segments of the antennæ brown, the

fourth partly brown, the rest black

Head with vertex impunctate, surface deeply depressed in front of the vertex and behind the frontal tubercles, particularly at each side, frontal tubercles well defined, interantennal carina well developed. Antennæ extending to about the middle of the elytra, first segment long and club-shaped, second small, third longer than second, fourth somewhat thicker than, and about equal in length to, the third; the rest about equal to each other and slightly thickened. Prothoral about three times as long as broad, sides rounded, lateral margins somewhat explanate, reflexed, and produced forwards to a certain extent at the anterior lateral angles, surface smooth, extremely finely and very sparsely punctate

2 d 2

Soutellum broad triangular, with apex rounded and surface smooth and impunctate Elytra hardly broader at base than prothorax, broadly ovate and broadly lounded at apex, surface minutely but not very closely punctate, the punctules visible under high power

Length, 43 mm

NILGIRI HILLS BOMBAN Belganin (Andrewes Coll) CAMBODIA (type-locality) MINTAWEI ISLANDS Sipora, v-vi 1894

(Modigliani)

Duvivier, not having seen Baly's type, doubtfully identified from the description an example from Kurseong, collected by P Braet, see Ann. Soc. Ent Belg xxxvi, 1892, p 425 Apparently this species has a wide distribution

Type in the British Museum

Genus ALYTUS, Jacoby

Alytus, Jac, Proc Zool Soc Lond 1887, p 98

GENOTYPE, Alytus ceylonensis, Jac

Body ovate, broadest in the middle, constricted between the prothorax and the elytra, strongly pointed towards the apex. Healt broad, eyes strongly convex, frontal tubercles prominent Antennæ longer than the body, slender, except the first two segments, which are more thickened than the others Prothorax narrowed behind, broadest in front, strongly convex, with a transverse channel in front of the base Elytra punctate-striate Underside prosternum narrowly elongate, much longer than broad, anterior coxal cavities open, mesosternum distinct, subquadrate, posterior femora strongly incressate, posterior tibias with an acute spine on the underside at the apex, first segment of posterior tarsi as long as the two following segments together, claws appendiculate

Range Ceylon

327. Alytus ceylonensis, Jacoby.

Alytus ceylonensis, Jac , Proc Zool Soc Lond 1887, p. 98

Body ovate, constricted between the prothorax and the base of the elytra, broadened in the middle and pointed behind Colour

shining brown, apices of posterior temora piceous

Head broad, vertex convex and impunctate, frontal tubercles strongly raised. Antennæ longer than the body, sparsely covered with silvery hairs, the apical segments not thickened, first segment long and thickened, second shorter but thicker than third, the latter slightly shorter than the fourth, fifth equal to fourth, sixth equal to seventh, the rest almost equal to each other except the last, which is slightly shorter and pointed. Prothorax almost as broad as long, broadest at the front and constructed behind, sides oblique but nearly straight, front and basal margins straight,

anterior angles slightly expanded, each possessing a seta, posterior angles acute, surface convex from side to side, smooth and impunitate, in front of the base and parallel to it is a transverse channel, not reaching the sides, and containing a few punctures. Scutellum triangular, smooth and impunctate Elytra at the base hardly broader than the prothorax, each elytron has eleven regular longitudinal rows of punctures, including a short scutellar and an

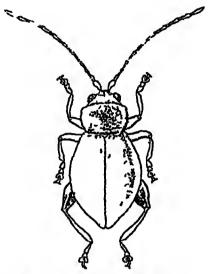


Fig 131 -Alytus ocylonensis, Jac

extreme marginal row, a longitudinal strip along the margin is somewhat bent inwards. *Underside* strongly convex along the middle, sloping dorsalwards at the sides, generally impunctate, the abdominal sternites having a tew fine scattered punctures.

Length, 2-3 mm, bisadth, 11 mm, length of antenna, nearly 3 mm

Culton Bogawantalawa, 4900-5200 ft, 28.11-12.111 1882 (G Leivis)

Type in the British Museum

Genus PHILOGEUS, Jacoby

Philogeus, Jac, Proc Zool Soc Lond 1887, p. 95

GENOTYPE, Philogeus fulvipennis, Jac

Body ovate, convex, subcylindrical. Head with frontal tubercles obsolete, eyes large, maxillary palpi robust. Antennæ robust, dilated towards apex. Prothorar quadrate, convex, with a shallow transverse depression in front of the basal margin. Elytra finely punctate-striate. Underside: prosternum longer than broad; anterior coxal cavities open; mesosternum transversely subquadrate, posterior femora strongly increasante, posterior tibiæ

dilated and rather flattened at the apical end, with a shallow excavation along the upper surface, and with a spine at the apex on the underside; first segment of posterior tarsi longer than the two following segments together; claws bifid, the base of each broad, the outer branch of each claw strongly chitinised and sharply pointed, the inner less chitinised and broader, a feature which is better visible when viewed from the underside.

Range. Ceylon

328. Philogeus fulvipennis, Jacoby

Philogeus fulmpennis, Jac, Pioc Zool Soc Lond 1887, p 96

Colour brown, head, antennæ, prothorax and legs black.

Head. vertex convex, smooth and impunctate, interantennal carina acutely raised. Antennæ about a millimetre shorter than the body, first segment long and thickened, second shorter and thicker than third, fourth equal to third, fifth very slightly

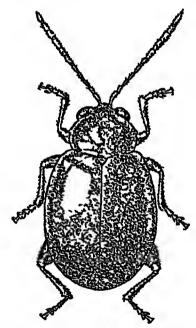


Fig 132 -Philogens fulvipennis, Jac

longer, sixth shorter than fifth, seventh, eighth and ninth stouter and more thickly covered with bristle-like hairs, tenth and eleventh thinner, the latter being small and pointed *Prothorar* as broad as long, front margin straight, basal margin widely rounded, sides straight, at the anterior angles the corners are oblique, each of the anterior and posterior angles possessing a seta-bearing pore; surface strongly convex, smooth, shining and (seen under a high power) with a few very fine scattered punctures. *Scutellum*

broad, smooth and impunctate, with apex broadly rounded Elytra broader than prothorax, on each elytron there are about eleven rows of punctures, including a rather long scutellar and an extreme marginal row, the punctures themselves are very fine and in many places almost obsolescent, thus rendering the counting of the rows difficult, interstices, seen under a high power, extremely minutely and sparsely punctate Underside smooth, shining, impunctate

Length, 3 mm, breadth, 2 mm

CEYLON Dikoya, 3800-4200 tt, 6 xm 1881-16 1 1882 (G Lewis)

Type in the British Museum

Genus MANOBIA, Jacoby

Manobia, Jac, Ann Mus Civ Genova, xxii, 1885, p 73

GENOTYPE, Manobia nigripennis, Jacoby (Sumatia). This is the first species which Jacoby described when erecting the genus

Body ovate-subquadrate, convex Head antennæ almost as long as the body, the four or five terminal segments slightly thickened Prothorar subquadrate, its surface with a deeply impressed line in front of the basal margin Scutellum broadly ovate, its apex rounded Elytra broader at base than prothorax, deeply depressed behind the base, the latter strongly raised; surface punctate-striate, the seriate punctures deep and large. Underside inout coxal cavities open behind, posterior femora strongly increasate, tibis slender, the front and middle pairs without any spine at the apex, the posterior pair with a small spine at the apex, first segment of posterior tarsi equal to the two following together, claws appendiculate

Range India, Ceylon, Sumatia, Java

Key to the Species

Antennæ black, with the four or five basal segments and the last segment brown Antennæ always entirely brown

M apicicornis, Jac, p 407. M dorsalis, Jac, p 409

329 Manobia apicicornis, Jacoby

Manobia apicicoi nis, Jac, Proc Zool Soc Lond 1887, p 89

Body oblong, somewhat narrowed at the apex. Colour piceous or black, head, prothorax and legs deep brown, antenno black with the four or five basal and the last segment brown, elytra black with the apex brown Sometimes the insect is entirely deep brown, and in some cases obscure piceous with the tibio brown

Head impunctate, frontal tubercles strongly raised, of an elongate triangular shape, delimited behind by a deep transverse impression which extends to the inner margins of the eyes

Antennæ nearly as long as the body, first segment long and clubshaped, second thicker than, but equal to, third, fourth somewhat longer than third and equal to fifth, the last four somewhat thickened *Prothorna* transversely quadrate, sides straight, posterior margin very slightly simuate, anterior angles obliquely truncate and slightly thickened; surface with a deep, strongly simuate, transverse impression near the base, containing some punctures and extending nearly to the posterior angles, the latter produced into a tubercle, surface convex and impunctate

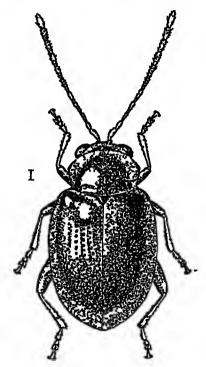


Fig 133 - Vanobia apicico nis, Jac

Scutellum small, thangular, impunctate Elytia with a well-marked basal depression, shoulders prominent, surface strongly punctate-structe, each elytion with eleven rows including a short scutellar row, and the punctuation diminishing towards the apex, interstices slightly costate near the sides on the basal part Underside prosterium rather broad

Length, 2½ n'm
C1 1LO. Dikoya, 3800-4200 it, 6 xm 1881-16 i 1882
(G I.ws), Bogawantalawa, 4900-5200 ft, 21 m -4 iv 1882
(G Lews)

Type in the British Museum

330 Manobia dorsalis, Jacoby.

Manobia dersalis, Jac, Ann Soc Eut Belg xl, 1896, p 266

Colour of head and underside black, unternæ and legs brown, elytra brown, with a large ill-defined broad longitudinal mark, occupying the base and gradually extending, though narrowing, towards the apex, blursh-black. In one variety the head is brown, and the discoidal bluish-black area on the elytra very faint.

Sometimes the apices of the hind femora are darker

Head impunctate, distinctly obliquely channelled between the eyes. Antennæ extending to the middle of the elytra, second and third segments equal, but the former is thicker, from the seventh the segments are slightly longer and gradually thickened. Prothorus one-half broader than long, sides straight, anterior angles oblique, surface with a transverse deep sinuate furrow near the base, impunctate. Elytra with the basal portion swollen, strongly punctate-striate, each elytron has eleven rows of punctures, including a short scritchlar row.

Length, 2 mm
Madua (Andrewes Coll)
Type in the British Museum

Genus TEGYRIUS, Jacoby

Tegyrus, Jac, Proc Zool Soc Lond 1887, p 97

GENOTIPE, Tegys us metallicus, Jac

Body ovate, cylindrical Head broad Antennæ filiform. Prothorar quadrate, with an impressed line in front of, and parallel to, the basal margin Elytra broader than prothorax, convex



Fig 134 - Tegyreus metallicus, Jac , hind tibia, showing the excavation

Underside anterior coxal cavities open, prosternum broad, subquadrate, mesosternum broader than long, its base emarginate; posterior temora strongly increased, posterior tibus short dilated, longitudinally channelled on the upper side and with a small spine at the spex, first segment of posterior tails as long as the three following joints together, claws appendiculate

Range. Ceylon

331. Tegyrius metallicus, Jacoby.

Tegurius metallicus, Inc., Proc. Zool. Soc Lond 1887, p 97

Body ovate, subcylindrical Colour of upper side metallic greenish-whecous, legs, the posterior femora excepted, yellow-brown, the rest of the body black. The coloration varies, the first two segments of the autenum, the legs and tarsi are sometimes strined with piecous. Posterior femora always piecous

Head vertex smooth, impunctate, frontal tubercles and interantennal carina rather indistinct. Antennæ nearly as long as the

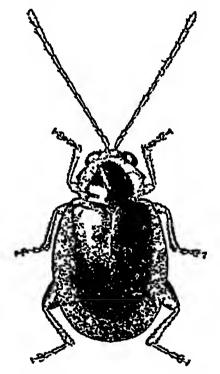


Fig 135 - Tigurus metallicus Jac

body, first segment long and thickened, second thicker but shorter than third, fourth slightly longer than third and equal to fifth, sixth and seventh equal to each other, the next four segments become successively shorter and very slightly thicker than the preceding segments. Protholar as broad as long, front margin straight, basal margin lounded, sides straight, at the anterior angles the corners are oblique, and each of the anterior and posterior angles possesses a seta-bearing pore, parallel to the basal margin and in front of it there is a shallow depression; surface strongly convex, smooth and impunctate. Scattlian broad, triangular, with apex broadly rounded, surface smooth and

impunctate. Elytra broader than prothorax, humerus convex; surface very minutely and sparsely punctate, the punctures being more or less regularly arranged in longitudinal rows. Underside: the sides of the elytra extend vertically much beyond the level of the abdomen, and consequently the latter looks deeply imbedded; the underside is sparsely covered with longish silvery hairs, which are more numerous on the apical part of the surface and sides of the abdomen.

Length, 21 mm

CEYLON Bogawantalawa, 4900-5200 ft, 28 n -12 m 1882 (G Lewis).

Type in the British Museum.

Genus HERMÆOPHAGA, Foudras

Her maophaga, Foudras, in Mulsant, Hist Nat Col France, Altisides, 1860, p 299, Chapuis, Gen Col vi, 1875, p 125

GENOTYPE, Haltica cicatriv, Illiger (Europe)

Small, oval, convex beetles Head frontal tubercles and interantennal carma developed. Antenuæ about half the length of the body, slender, somewhat thickened towards the apex, the fourth segment is the shortest Prothogan broader than long, sides gently rounded, anterior angles thickened, surface unitorally convex; an ante-basal transverse impression is present. Scutellium triangular, with apex rounded Elytra broader at base than prothorax, punctuation generally confused but sometimes irregularly arranged in longitudinal rows Underside prosternal process narrow, front coxal cavities open behind, posterior temora moderately thickened, tibiæ subcylindrical, taisi short, first segment of the posterior pair hardly equal to the two following together, claws appendiculate

Range World-wide

332 Hermæophaga indica, Jacoby.

Hermaophaga maica, Jac, Ann Soc Ent Belg alvn, 1903, p 105

Body ovate Underside, legs and antenno blackish, head, the two or three basal segments of the antenno, and the prothorax brown, elytra metallic blue, come and the last segment of the

tares more or less brown, scutellum black

Head impunctate, frontal tubercles feebly indicated, interantennal carina short and broad. Antennæ rather slender, first segment long and club-shaped, second thicker than, but equal to, third, fourth shorter, from the fitth the segments are slightly elongate and thickened. Prothorax transverse, subquadrate, sides nearly straight, anterior angles obliquely thickened, posterior margin rounded and slightly produced at the middle, seen under a high power the surface is extremely minutely and sparsely punctate, with a feeble transverse furrow near the base, which turrow is bounded at the sides by a very short and shallow perpendicular impression. Scutellum triangular, smooth, impunctate. Elytra broader at base than prothorax, convex, closely and finely

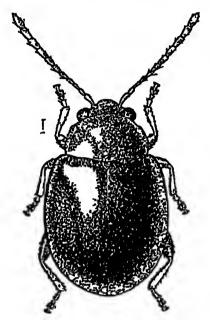


Fig 136 -Hermaophaga indica, Jac

punctate, the punctuation here and there arranged in inegular rows. Underside posterior tibes with a small spine at the apex, the others unarmed

Length, 2 mm NILGIRI HILLS (Andrewes Coll) Type in the British Museum

Genus PHYGASIA, Baly

Phygasia, Baly, Tians Ent Soc Lond 1876, p 445

GENOTYPE, Phygasia ornata, Buly

Body oblong-ovate or ovate, moderately convex Head moderately exserted, eyes comparatively small, vertex convex, generally impunctate, frontal tubercles and interanteunal carina well developed. Antennæ comparatively short, extending not much beyond the middle of the elytra, in some cases shorter, sometimes thinner at the apex and more or less stout at the middle (this is probably a secondary sexual character of the male) itrst segment thickened, second always small and rounded,

PHYGASIA 418

third about equal to fourth, in some cases it may be slightly longer, but the fourth is never longer than the third. Prother ax always broader than long, sides rounded as a rule, lateral margins often channelled so that the edges appear somewhat reflexed. each of the four corners is generally furnished with a fine seta. and the front angles are often thickened and obtuse, and sometimes produced, surface convex, smooth, while along the basal margin is a shallow transverse furiow or depression comparatively large, friangular, with aper rounded broader at base than prothorax, generally confusedly punctate. the punctures stronger than those of the pronotum when the Sometimes each elytron has laised costee. latter is punctate which is probably a secondary sexual character of the male Under side front coxal cavities open behind; prosternal process narrow in front, somewhat thickened behind legs more or less robust, tibiæ simple, not channelled on the doisal surface. posterior tibie with a small spine at the apex, posterior femora thickened, channelled on the underside, claus appendiculate

Range Asia, Africa.

Key to the Species

1. Elytra unicoloious Elytra of at least two colours 2 Elytra black, with the apex red-brown and with a large jellow-white patch on P. ornata, Baly, p 413 each elytron Elytia brownish-yellow, with a large ovate sutural black patch common to the two, and their apices black P dorsata, Baly, p 414 3 Upper side entirely brown Upper side not entirely brown в 4 Pronotum, seen under a high power, finely and sparsely punctate P indica, Jac, p 415 Pronotum impunctate 5 Colour shining rich brown, apices of femora and tibue, and tars, black, antennæ black, underside of first segment brown P hookers, Baly, p 415 Colour entirely shining blown, tarsi fuscous, antennæ, except the four basal P unicolor, Ol p 417 segments, darker brown 6 Elytra black, pronotum brown P mgripennis, Jac , p 417 P violaceipenme, Jac, Elytra dark violaceous, pronotum biown [p 418

333 Phygasia ornata, Baly

Phygana or nata, Baly, Trans Ent. Soc Lond 1876, p 445

Body oblong Colour shining reddish-brown to palei, under side blown, the two basal segments of the antennæ brown, the third piceous, the rest black, tibiæ and tarsi blackish, elytra black, with the apex red-brown, and with a large yellow-white patch on each elytron occupying the greater portion of the surface

Head with vertex impunctate, frontal tubercles and inter antennal carina well developed. Antennæ extending to a short distance beyond the base of the elytra, first segment club-shaped, second small, rounded, third and fourth about equal, the apical three or four segments thinner Prothorax broader than long, sides rounded, slightly diverging from the base to the middle, anterior lateral angles obtuse, thickened, posterior angles also slightly produced into a settierous tubercle, surface convex, smooth, impunctate. Scutellum triangular, with apex rounded, sarrace smooth and impunctate Llytra broader at base than prothorax, very minutely, confusedly and closely, punctate

Length, 6½ mm (type-specimen)

Hong Kong (type-locality, Bowring) FORMOSA (Shu aki).

I have referred to this species four examples, three from the Andaman Islands, one of which was collected by Captain Wimberley, and the fourth from Tenasserim (Tavoy), collected by Doherty The variation in colour is slight, Wimberley's specimen having the reddish-brown colour much paler and the tibize brown, while another Andaman example shows faint ribs on each elytron, which is probably a secondary sexual character of the male In Captain Wimberley's Andaman specimen the apical segments of the antenne are not thinner. In other respects the specimens agree with Baly's type of ornata. The specimens from our regions are somewhat smaller.

Type in the British Museum.

334 Phygasia dorsata, Baly

Phygasia dor sata, Baly, Ann & Mag. Nat Hist (5) 11, 1878, p 231.

Body oblong-ovate Colour shining black, elytra biownishyellow with a lather ovate sutural black patch, covering both elytra from about the middle (where it is broad) and narrowing at its apex, the apex of the elytra is also black, scutellum black, roots of antennæ, with the apices and undersides of the first,

second and third segments, deep brown

Head with vertex impunctate frontal tubercles and interantennal carina well developed. Antennæ extending to the middle of the elvia, second segment small and rounded, third equal to fourth, fifth to seventh somewhat thickened; after that the segments are progressively thinner. Prothorax broader than long, sides a counded, margins channelled, anterior lateral angles produced, thickened and obtuse; the basal transverse furrow well impressed and terminated on either side by a short longitudinal impression, surface convex, smooth and impunctate. Scutellum triangular, with apex rounded and surface smooth and impunctate Elytra broader at base than prothorax, somewhat narrowed at the apex, confusedly, finely and closely punctate, on each elytron

are three longitudinal ribs, the outermost of which commences on the humeral callus and extends to three-fourths of the length of the elytron, being more or less interrupted behind its middle, and sending a short ill-defined branch towards the intermediate rib; the latter commences just behind, and rather within, the humeral callus and runs parallel to the outer rib, terminating at about the same distance from the apex of the elytron; the third or innermost rib is placed on the line of junction between the inner and outer parts of the disc and is much shorter than the other two, commencing considerably behind the base and terminating at a short distance behind the middle

Length, 6-7 mm

INDIA (type-locality) SIRKIM Mungphu (Atkinson) In recording the locality, Baly states that, although the labels attached to his specimens bore only the word "India," he had seen "Khasia Hills" on labels attached to specimens belonging to Chapuis

Type in the British Museum.

335 Phygasia indica, Jacoby.

Phygana indica, Jac., Ann Soc Ent Belg 1111, 1898, p 187

Body oblong. Colour shining brown, more or less of the underside, the posterior femoia, all the tibize and tarsi, and the

apical segments of the antennæ, are fuscous.

Head with vertex implicate, frontal elevations and interantennal carina well developed. Antennæ extending to the middle of the elytra, first segment club-shaped, second small and rounded, third about equal to fourth, fifth equal to fourth; the following segments about equal, very slightly thickened Prothorax broader than long, sides rounded, margins channelled, the transverse ante-basal furrow shallow, not reaching the sides, surface impunctate Scutellum triangular, with apex rounded, surface smooth and impunctate Elytra broader at base than prothorax, humerus convex, surface very finely and confusedly punctate Underside thinly covered with fine hairs

Longth, 5 mm

S India Bangalore (type-locality)

Type in the British Museum

In the type-specimen there are lighter brownish spots on the pronotum and the elytra, which, I think, are accidental, the other examples of the same series are without any such marks.

336 Phygasia hookeri, Baly.

Phyaasia hookers, Baly, Trans Ent Soc. Lond 1876, p 445

Body oblong-ovate Colour shining rich brown, apices of femora, tibiæ and tarsi, black, antennæ black, with the underside of their first segment brown, eyes black.

Head broad with verlex impunctate, eyes small, frontal elevations broad, interantennal carina well developed extending almost to the middle of the elytia, robust but thinner towards the apex, first segment long and club-shaped, second small and globular, third to sixth thick and about equal in length, seventh to eleventh progressively more slender Prothous broader than long, sides diverging from the base to just beyond the middle, thence rounded to the front angles, margins channelled, anterior lateral angles rounded, posterior angles almost right angles,

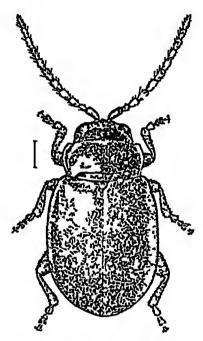


Fig 137 -Phygasia hookers, Buly

there is a shallow transverse depression along the basal margin, surface gently convex, sparsely and finely punctate broad, triangular, with apex broadly rounded, surface smooth and impunctate Elytia broader at base than prothorax, humerus convex, rounded, surface confusedly punctate, the punctures being much stronger than those on the pronotum thinly covered with fine hairs

Lingth, 6 mm

Khası Hills (type-locality, D) SIKKIM Ilooker) Gopaldhara, Rungbong Valley (H Stevens)
Type in the British Museum

337. Phygasia unicolor, Olivier.

Altica unicolor, Ol, Entomologie, vi, 1808, p. 699, pl. 3, fig 55

Body oblong. Colour entirely shining blown; tarsi fuscous; antennæ, except the four basal segments, darker blown, eyes black.

Head with vertex impunctate, frontal elevations and interantennal carina well developed. Antennæ extending to the middle of the elytra, first segment club-shaped, second small, rounded, third about equal to fourth; the following segments more or less nearly equal Prothorax broader than long, sides rounded, margins channelled, basal transverse furrow shallow, not extending to the sides, surface convex, seen under a high power and in a suitable light to be extremely minutely and sparsely punctate Scutellum triangular, with apex rounded surface smooth, impunctate Elytra broader at base than prothorax, humerus convex, rounded, on each elytron, extending longitudinally from the humerus, is a ridge; surface finely, closely and confusedly punctate Underside thinly covered with fine hairs

Length, 5 mm

Bengar (type-locality) Ningini Hills (Andrewes Coll)

Type probably in the Paris Museum. The above description is taken from specimens identified by Baly

338 Phygasia nigripennis, Jacoby

Phygasia nigripennis, Jac, Ann Soc Ent Belg xlviii, 1904, p 391

Oblong, rather broader than some other species Colour of head, prothorax and abdomen, brown, antennæ, breast, legs and

elytra, black, scutellum brown to pitch-brown.

Head with vertex impunctate, frontal tubercles and interantenual carina well developed. Antennæ extending to a short
distance beyond the base of the elytia, first segment thickened,
second small, rounded, third about equal to fourth, the following
segments more or less nearly equal to each other. Prothorax
broader than long, sides strongly rounded, anterior and posterior
angles with setiteious tubercles; surface convex, smooth, impunctate Soutellum triangular, with apex rounded, surface
smooth, impunctate Elytia broader at base than prothorax,
contusedly, minutely, and finely punctate

Length, 53-6 mm

South India Anaimalai Hills, v (Andrewes Coll.)

Type in the British Museum

339. Phygasia violaceipennis. Jacoby

Phygana violaceipennis, Jac, Ann Suc Ent Belg xlvii, 1908,

Body oblong. Colour of head, prothorax and breast, brown: antennæ and legs obscure fuscous, tibiæ and tarsi of a deeper shade, elytra dark violaceous, abdomen black, scutellum brown.

Head with vertex impunctate, frontal tubercles and interantennal carina well developed. Antennæ extending to about the middle of the elytra, first segment thickened, second small, rounded, third appearing slightly longer than tourth, the last three segments somewhat thinner, the preceding four about equal in length. Prothorar broader than long, sides rounded, the four corners with setiferous tubercles, surface convex, finely and sparsely punctate, the basal transverse furrow shallow Scutellum triangular, with apex rounded and surface smooth and impunctate Elytra broader at base than prothorax, surface finely, closely, and confusedly punctate

Length, 43-5 mm.

SOUTH INDIA Pondicherry. Tupe in the British Museum.

Genus HALTICA, Fabricius

Altica*, Geoffray, Histoire des Insectés, i, 1762, p 244†, Fabricius, Syst Ent 1775, p 112

Haltica, Chapuis, Gen Col vi, 1875, p 59

Graptoder a,, Chevrolat, in d'Orbigny, Dict Univ Hist Nat (original edition) vi, 1845 ‡, p 807

GENOTYPE, Chrysomela oleracea, Linn (Europe)

This is the oldest and the most difficult genus in the whole group The difficulty arises from the fact that insects from very widely separated regions show very little difference in external

* Fabricius, following Geoffroy, used the word Altica without the H Later authors introduced the H, in order to make the name more classically correct As a rule I adhere to the original spelling, but in the present case I do not

been done by other writers on this group

† The correct date is 1845, although 1849 or 1861 may occur on the titlepage See Sherborn and Palmer, "Dates of Charles d'Orbigny's 'Dictionnaire
d'Histoire Naturelle, 1839-1849'" (Ann & Mag Nat. Hist. (7) in, 1899,

p 350)

do so, because it would entail a large number of changes in indexing, etc
† In this work, in which Geoffroy proposed the name Altica, he did not
employ the binominal method of nomenclature. Although there is in this case no doubt to which insect he was referring (since he mentioned Linnaus' species no 35 in the genus Chrysomela, Syst Nat ed x), he cannot be regarded as the author of the present genus, because his "Histoire" is for such purposes wholly rejected by common consent. The authorship is, therefore, here ascribed to Fabricius, the next user of the name, as has already

HALTICA. 419

characters, so that the species cannot easily be determined with certainty. The value of colour in this genus is very little, because in a single "catch" of one species, from one locality, it may be blue, blue-black, black, or mixed with violet or purple. Attempts are being made to use the structure of the ædeagus as a differentiating character, but so far no very successful results have been obtained. The genus as a whole should be studied from this point of view, but probably no single worker has yet had the opportunity. Accurate field observations, tested by experimental breeding, are also required.

The form is generally oblong, the species are always winged, the colour is blue or greenish-blue. They are moreover characterized by having distinct frontal tubercles and a sharp frontal ridge on the head. The second and third antennal segments are of equal thickness, and the third and fourth are almost equal in length. The pronotum is furnished at the base with a relatively deep transverse depression, which is not bounded by a longitudinal told on each side. The elytra are confusedly punctate. The

large, the Indian forms varying between 31 and 6 mm. in length.

No key to the species is given, because the relationships of

anterior coxal cavities are open behind. The species are relatively

those found within our regions are not well understood.

Range World-wide.

340. Haltica foveicollis, Jacoby

Haltura (Graptodera) fovescollis, Jac, Ann Mus Civ Genova, xxvii, 1889, p 190

Body oblong. Colour greenish-wneous above, and black on the

underside; legs black.

Head with vertex impunctate, frontal elevations rather flat, interantennal carina well developed, eyes strongly convex. Antennæ extending to the middle of the elytra, first segment club-shaped, second short, third longer than second, shorter than fourth, fifth about equal to fourth, the following segments are somewhat shorter and about equal to each other in length. Prothorax somewhat broader than long, sides greatly rounded. anterior and posterior lateral angles rounded, each bearing a fine seta, surface gently convex, very finely and closely punctate in the male, while in the female the punctures are very sparse; along the base the surface is depressed and in front, on each side of the middle line, is a shallow depression. Scutellum triangular, with apex rounded and surface smooth and impunctate. Eletra broader at base than prothorax, closely and confusedly punctate: the punctures are stronger than those of the pronotum and along the middle there is an indication of arrangement in one or two rows, in the female there is a costa extending from the shoulder to beyond the middle; behind the scutellum a short longitudinal area is depressed.

Length, 6 mm

BURMA · Rangoon (Fea), Toungoo, Tharrawaddy. TENAS-SERIM : Kawkareik [Kawkareet], 11. 1887 (Fea) Type in the Genoa Museum

341. Haltica semiproceus, Jacoby

Haltica semipiceus Jac, Entomologist, xxxii, 1899, p 81.

Body oblong Colour dark blue above, piceous on the underside; the four or five basal segments of the antennæ brownish, the remaining segments piceous; clypeus, labrum and maxillary

palpı dark pıtch-brown, legs piceous

Head with vertex convex and impunctate, separated from the front by a transverse impression; frontal tubercles well developed, transverse, clypeus triangularly raised, deflexed in front. Antennæ extending a little distance beyond the middle of the elytra, first segment club-shaped, second small, thick, third and fourth equal, fifth very slightly longer, sixth and each of the following segments somewhat shorter. Prothorax somewhat broader than long, very slightly narrowed in front, sides almost straight, margined, anterior angles slightly thickened, surface not smooth, indistinctly and finely punctate; the basal transverse furrow not clearly distinguishable. Scutellum triangular, with apex rounded and surface smooth and impunctate Elytra broader at base than prothorax, closely, distinctly and confusedly punctate. Underside sparingly pubescent, the spine at the apex of the posterior tibiae well developed.

Length, 3-31 mm

Assam Khasi Hills (Kiaatz Coll).

Type in the British Museum.

This is the smallest species known from the countries under review.

342. Haltica nigripennis, Jacoby.

Haltica (Graptodera?) myripennis, Jac, Proc Zool Soc Lond. 1887, p. 83

Body oblong Colour of head, antennæ, prothorax, breast and legs yellow-brown, elytra violet-bluish, the abdomen sharing the colour of the elytra, but sometimes the violet component of the colour is not prominent, the antennæ and legs may be piceous in

some cases; scutellum brownish

Head with vertex convex and impunctate, frontal tubercles developed, though in some examples they may appear to be not prominent. Antennæ more than half the length of the body; first segment club-shaped, second small, globular, in some examples each of the segments from the third to the sixth is somewhat thickened at the apex and narrowed at the base, the rest of the segments are slender. Pothorax broader than long, sides rounded,

HATTICA 421

anterior and posterior lateral angles also rounded, front margin straight; surface convex, seen under a high power to be extremely minutely and very sparsely punctate; the basal transverse depression is present although it does not extend to the sides Scutellum nairow, triangular, with apex rounded Elytic nearly parallel-sided, with apex rounded; surface closely, finely and confusedly punctate.

I believe that this species will be regarded as belonging to a different genus. In it the posterior coxal cavities are open behind, the posterior femora are considerably thickened, the posterior tibus are somewhat longer than the front of the middle pairs and they end in a spine; the first segment of the posterior tars is equal to the two following together, and the claws are appendiculate. But without further material it is convenient to retain the species in Haltica

Length, 4 mm.

CEYLON: Colombo, 7-27.1v 1885 (G. Lewis)

Type in the British Museum

343. Haltica cærulescens, Baly.

Graptoder a carulescens, Baly, Trans. Eut. Soc. Lond 1874, p 190; id, Cist Ent 11, 1878, p. 376

Body oblong-ovaic, convex. Colour metallic blue above and

shining blue-black on the underside; antennæ black

Head with vertex smooth, impunctate, frontal tubercles oblique, transverse, subquadrate, contiguous at the apex, separated from the front by a distinct channel; interantennal carma raised, its lower half compressed and linear, the upper half hastate, the space on either side of the lower portion smooth and impunctate. Prothorax one-third broader than long, sides nearly parallel, slightly sinuate at the base, obliquely rounded towards the tront margin, anterior angles very obtuse, broadly incrassate, hind angles armed with a sharp tooth, surface smooth and shining, basal depression straight for nearly its whole length, dilated and slightly sinuate at either end, nearly reaching the lateral borders on either side. Elytra oblong, broader than prothorax, distinctly punctate, the punctures on the inner part of the surface indistinctly arranged in longitudinal strice.

Length, 34-5 mm

Punjab Muiree (Stoliczka) Japan Nagasaki; Tsu-Shima (G Lewis) China Chusan.

Type in the British Museum

Baly first described this species from the above places in Japan and China, but when working out Dr. Stoliczka's collection he referred specimens from Murree (Punjub) to this species (Cist. Ent. 1878, p. 376).

344 Haltica viridicyanea, Baly

Halisca viridicyanea, Baly, Trans Ent Soc Lond 1874, p 191, id, Cist Ent ii 1878, p 376

Body ovate, convex Colour above shining greenish-blue,

underside blue-black, antennæ black

Head surface of lower half of face, on either side of the narrow, distinctly massed carma, irregularly wrinkled, frontal tubercles triangular, contiguous Prothorax scarcely twice as broad as long, sides at the base nearly straight and parallel, in their anterior half obliquely converging and distinctly simulate, anterior angles slightly produced, obtuse, surface convex, distinctly impressed with some innuite punctures, basal impression distinctly bisiniate, terminating on either side at some distance from the lateral border Elytra oblong, convex, finely punctate; interspaces finely granulose

Length, 34 mm

PUNJAB: Sind Valley (Stoliczka) JAPAN Nagasaki (typelocality, G Lewis)

Type in the British Museum

When working out Dr Stoliczka's collection Baly referred specimens from Sind Valley to this species (Cist Ent 1878, p 376)

345 Haltica cyanea, Weber

-Haltica cyanea, Web, Obs Entom 1, 1801, p 57, Duvivier, Ann Soc Ent Belg xxxvi, 1892, p. 429, Jacoby, Ann Mus Civ. Genova, xxvii, p 191

Haltica birmanensis, Jacoby, Ann Soc Ent Belg xl, 1896, p 254

Dark blue, antennæ biack, basal segments brownish at the

apex-, scutellum nearly black.

Head with vertex impunctate, frontal tubercles strongly iaised, triangular, interantennal carina rather broad. Antennæ extending to a little distance beyond the middle of the elytra; third segment double the length of the second but shorter than the fourth. Protherax much broader than long, lateral margins slightly rounded, surface impunctate, the basal transverse furrow sinuate and placed at some distance from the basal margin. Scutellum broad, impunctate Elytra closely and strongly punctate, more finely on the apical part, the punctures tend to form rows

Length, 5 mm

BOMBAY. Belgaum, Kanara Punjab Chamba Buema Shwegon, Katha, Senmigion Bhamo, Ruby Mines (Doherty); Karen Mts (Fea) Tenasserim Thagata (Fea) Java. Sumatra.

Type probably in the Copenhagen Museum

Jacoby described Haltica birmanensis as a distinct species, although he found the ædengus of H cyanea to be identical in structure with that of birmanensis. He relied on the apparently slightly greater length of the antenne, the somewhat less closely

placed punctures on the elytra and the brighter blue colour in birmanensis, as characters on which to base a new species. In view of the wide distribution of H. cyanea and the remarks made above, it is probably nearer the truth to regard birmanensis as a variety of H. cyanea.

346. Haltica corulea. Olivier.

Galeruca carulea, Ol, Encyl Meth vi, 1791, p. 590, id, Entomologie, vi, p 640, pl. 1, fig. 5, a-b.

Body oblong, somewhat narrowed behind. Colour blue above;

black on the underside; antennæ and legs black.

Head with vertex impunctate, frontal tubercles varying somewhat in their prominence, interantennal carina well developed, rounded. Antennæ extending to about the middle of the elytra;

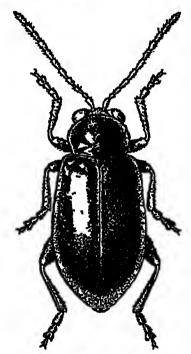


Fig 138 —Haltica can ulea, Ol

second segment small, third and fourth about equal. Prothorax much broader than long, sides somewhat rounded; ante-basal furrow well impressed; surface very finely and sparsely punctate. Scattellum triangular, impunctate. Elytra broader at base than prothorax, closely and strongly punctate, the punctures tending to form longitudinal rows. Underside covered with fine brownish pubescence.

Length, 6 mm.

NILGIEI HILLS (Andrewes Coll.) COROMANDEL COAST (Maindron). CEYLON. Hambantota (T. B. Fletcher) ASSAM: Sadiya (Dokerty).

Location of type unknown.

Haltica polita, Motschulsky.

Graptodera polita, Motsch., Bull Soc Nat Mosc xxiv, 1851, part 1, no 2, p 665

When Motschulsky visited London in February 1850, he availed himself of the opportunity of seeing the Museum of the East India Company. Among the insects in the collection of that Museum he found several new species, polita was one of them, and he characterised it in a few words in French, of which the following is a translation: "This insect is very near Graptodera lythri, Aubé, from which it is distinguished only by its more shining coloni and larger form." G. lythri is a European species. As the East Indian Museum collection was mainly composed of Javan species, collected by Dr. Horsfield, it is not certain whether H polita really occurs in the regions at present under review. Considering the difficulty of comprehending the relationships of the species of Haltica, it is quite possible that polita is a synonym of a previously described species

The type cannot be traced

Genus PARLINA, Motschulsky.

Parlina, Motsch, Bull. Soc Nat Mosc xxxix, 1866, part 1, no 2, p 420

GENOTYPE, Parlina trancisa Motsch.

Small ovate insects (in the genotype the elytia are somewhat tapering at the apex) Head with interacteunal and interocular spaces not smooth. Antennæ generally as long as the body, their points of insertion being close to each other, first segment long and club-shaped, second small, third longer than second but shorter than fourth; from the fourth to the last the segments are elongate and almost equal to each other. Prothorax broader than long, and at the base hardly narrower than the base of the elytra, in front of, but close to, the basal margin of the pronotum there is a deep transverse impression which, according to Motschulsky, is terminated on either side by a short longitudinal impression, but actually it is not distinctly so, or at any rate this feature is variable. This last character is found also in Crepidodera, from which the present genus differs in baving the elytral surface finely and confusedly punctate. Scutellum small, triangular, with apex rounded and surface impunctate Elytra completely and confusedly covered with a mixture of very fine and coarser punctures, the latter being distributed at the sides, where two or three short rows may be recognised, with their interstices slightly

raised; this character is particularly visible in the type-species of the genus. Anterior coxal cavities open behind. Prosternum rounded at apex. Claws appendiculate.

Range. Ceylon.

Although I have not seen the type-specimen of the typical species of the genus, yet five examples from Ceylon in the British Museum can be definitely identified as *Parlina trancisa* by the characteristic coloration and the shape of the body. The above generic description is drawn up from these examples

347 Parlina trancisa, Motschulsky.

Parlina trancisa, Motsch., Bull Soc Nat Mose xxxix, 1866, part 1, no. 2, p. 420

Body oblong-ovate. Pronotum, the two basal segments of the antennæ and the apices of the elytra, brownish-yellow; underside deeper brown; the segments of the antennæ (except the first two) fuscous: elytra brownish-green; scutellum bluish.

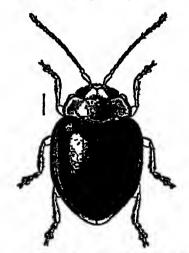


Fig 139 -Parlina trancisa, Motsch

Head with vertex smooth and impunctate, frontal elevations and interantennal carina distinct. Antennæ long, only about one millimetre shorter than the length of the body; first segment long and club-shaped, second small, shorter than third, fourth longer than third; the remaining segments almost equal to each other and sparsely covered with hairs Prothorax much broader than long, anterior margin almost straight, posterior slightly sinuate, sides rounded, anterior angles rounded and somewhat produced, posterior angles acute, each of the four angles bearing a fine seta; surface (seen under a high power) very minutely punctate. Scutellum small, triangular, smooth, impunctate Elytra closely and confusedly covered with finer and coarser punctures, the former being more numerous near the suture and the latter

towards the sides; along the middle of each elytron are two pairs of not very well-defined longitudinal rows, at a certain distance from each other, both pairs being internal to the humerus; along the lateral part of each elytron there are three longitudinal rows, including the extreme marginal row; the interstice between the inner two of these rows is narrow and raised, particularly towards the apex, while that between the second of these rows and the extreme marginal row is broad and similarly raised; humerus prominent *Underside* smooth, shining and impunctate, tibise broadened towards their apices; claws appendiculate.

Length, 4 mm,

CEYLON. Bogawantalawa, 4900-5200 ft, 28. 11. and 12. 111 1882 (G. Lewis); Dikoya, 3800-4200 ft., 6. x11. 1881-16. 1. 1882 (G. Lewis). Motschulsky's specimens were from Nuwara Eliya, about 8000 ft.

The location of the type is unknown to me.

348 Parlina fulva, Jacoby.

Parlma fulva, Jac, Proc. Zool. Soc Lond 1887, p. 88.

Body oblong-ovate. Colour fulvous; the apical segments of the antennæ, the tibiæ and the tarsi, piceous, the four basal segments of the antennæ fulvous; sometimes the whole insect is fulvous.

Head impunctate, frontal tubercles small but distinct, carna short; penultimate segment of maxillary palpi thickened, the apical segment short, acutely pointed. Antenne noarly as long as the body, second segment short, the following segments nearly equal in length. Prothorax transverse, three times as broad as long, sides rounded and narrowly margined, angles rather blunt, scarcely prominent; surface with a distinct transverse groove near the base, not extending to the sides, and either scarcely visibly punctured or entirely impunctate. Scatellum triangular. Elytra without any basal depression, closely and finely but distinctly punctured Underside: posterior tibis mucronate; first segment of posterior tarsi as long as the two following segments together, claws appendiculate; prosternum narrow; anterior coxal cavities open

Length, 4 mm

CEYLON.

Type in the British Museum

Genus LACTICA, Errchson.

Lactica, Erichs, Arch. f. Naturg 1847, xiii, 1, p 178, Chapuis, Gen. Col xi, 1875, p 124; Jacoby, Biol Centr-Amer vi, pt. 1, 1884, p. 270.

Camæna, Baly, Journ of Ent. i, 1862, p 458. Medoma, Baly, Journ of Ent. 1, 1862, p 459

Genotive, Lactica melaleuca, Erichs. (Peru)

Body oblong. Head subtriangular, trontal tubercles and interantennal carina well developed, eyes moderately large, either slightly sinuate at the inner margin or entire. Antennæ extending somewhat beyond the middle of the body, first segment long and club-shaped, second half the length of the first, third somewhat longer than second, fourth longer than third; the following segments gradually shortened. Prothorax more or less transverse, somewhat narrowed in front, anterior border straight with the lateral angles thickened and very obtuse, sides straight or somewhat rounded, surface with a fairly deep transverse impression, bounded on each side by a short longitudinal impression, at the base Scutellum triangular. Elytra oblong-ovate, brondest at the middle or behind, confusedly punctate or with the punctures tending to form longitudinal rows Underside. front coxal cavities open behind, legs more or less slender, anterior tibize very slightly dilated at the apex, with two feeble ridges on the outer side, posterior femora thickened, channelled on the underside, posterior tibiæ somewhat bent, with two prominent ridges on the outer side, these being set with hairs, and with a spine at the apex; claws appendiculate.

Range. All parts of the world, more especially the warm

regions of America.

Key to the Species.

Body yellowish-red above . L silacea, Illig, p 427

Head and pronotum black, elytra either black, each with a large white patch occupying almost all the posterior half, or entirely yellowish-white . . . L bipustulata, Jac, p. 428.

349. Lactica silacea, Illiger

Haltica silacea, Illig, Mag. Insektenkunde, vi 1807, p 121 Lactica psilacea. Duvivier, Ann Soc Ent Belg xxxvi, 1892, p 430.

Body ovate, shining. Colour yellowish-red; mouth-parts, underside and femora of front legs reddish-yellow; hind femora brownish, with the inner side of the under half brownish-yellow; all the tibiæ and tarsi blackish-brown, the middle of the abdominal steinites brownish, antennæ brownish-yellow with the apical half brownish; eyes black.

Head narrower than prothorax. Prothorax narrower than elytra, one-half as broad again as long, front and hind margins straight, sides rounded, each of the four corners tuberculiform; upper side gently convex, the basal transverse impression bounded on each side by a short longitudinal impression. Elytra smooth.

Length, 2 lm (5 mm.?)
Bengal (Daldorff Coll)

Type in the Copenhagen Museum. I have not seen the type.

Duvivier, in working out Père Cardon's collection from Mandar, doubtfully referred one specimen to this species, and added that it was 4½ min long, and yellowish with the tibiæ and tarsi black, that the antennæ were brownish-yellow at the base but darker towards the apex, that the prothoiax was shining and smooth, and the elytra closely and finely punctate.

350 Lactica bipustulata, Jacoby.

Lactica bipustulata, Jac., Ann. Mus Civ. Genova, xxxii, 1892, p 919

Head, antennæ and prothorax shining black; each elytron black, with a large oval white patch from the middle nearly to the apex, and extending to either margin, in some cases the

elytia are entirely yellowish-white

Head with veitex convex, impunctate, frontal elevations strongly developed, triangular. Antennæ extending to half the length of the elytra, slender; third and following segments nearly equal. Prothorax transverse, more than twice as broad as long, sides strongly rounded, widened before the middle and with narrow flattened margins, anterior angles slightly produced, posterior angles tuberculiform, upper surface impunctate, with a distinct transverse furrow, bounded by an impressed longitudinal line on either side, before the base Elytra very closely and finely punctate.

Length, 5g mm.

BURMA Karen Mts, x11. (L Fea)

Type in the Genoa Museum I have not seen the type of this species

Genus MNIOPHILA, Stephens.

Mniophila, Steph, Ill Brit Ent 18, 1834, p. 380

GENOTYPE, Mniophila muscoi um, Koch (Europe).

The insects belonging to this genus are small, strongly convex and gibbons. Stephens distinguished this from other genera by the singularity of the antennæ, of which the eighth segment is minute, as in many fungivorous insects, and the three apical segments form a club. The head is sunk in the prothorax, and the forehead is marked with two deep furrows which cross one another and form an X. The prothorax is broader than long and the elytra are produced into a deflexed point at the apex. The posterior femora are only inoderately thickened; the spur at the apex of the posterior tibiæ is wanting or obsolete. The anterior coxal cavities are open behind. The claws are simple and thin.

These insects are found in moss in damp places Range. Europe. Ceylon?

Owing to the existing doubt as to whether Motschulsky's species, included below, really belongs to the genus *Mniophila*, this genus is not incorporated in the key on pp 283-286. See the further remarks below, under *M ruficolle*

351 Mniophila ruficolle, Motschulsky.

Mmophila ruficolle, Motsch, Bull Soc Nat Mosc xxxix, 1866, part 1, no. 2, p. 422

I have not seen this insect. The following is a translation of

the original description in Latin -

With the form of Mnioph. muscorum, but larger and slightly more oblong. Oblong-ovate, strongly convex, shining, with the head, base of the antennæ, thorax, scutellum and legs, reddisitestaceous, elytra punctate, green, apical part of the antennæ and the underside of the body black

Length, 1 line; breadth, 1 line [approximately 2 mm and 1 mm.

respectively].

CEYLON: Nuwara Eliya. Location of type unknown.

The generic decription is taken from M. muscorum, Koch, which occurs in Great Britain, and specimens of which I have examined in the British Museum collection. It cannot be stated definitely whether the Ceylonese insect really belongs to this genus. The above enumeration of the generic characters of Mniophila will, however, be useful, should there be found in Ceylon an insect which conforms to the coloration of M. ruscolls. There are only three species recorded under this genus, two from Europe and one (M. ruscolls) from Ceylon. It must be remembered that Motschulsky's Ceylonese insect occurred at a great elevation.

Genus ARGOPUS, Fischer

Argopus, Fischer, Ent Russ. 11, 1824, p 182, pl 47, figs 3, 4, Chapus, Gen. Col x1, 1875, p 183

GENOTYPE, Argopus bicolor, Fischer (Elisabethgrad, S.W. Russia)

The chief character on which the erection of this genus was built is the weak leaping power of the insect, to which Fischer called attention by naming it Argopus. The type-species, which he called bicolor and which I have not seen, was from S.W. Russia. But there are in the British Museum many other species from various places, these I have examined, and I have accordingly drawn up the following short generic diagnosis—Body generally ovate and rather strongly convex; the prevailing colour is brown in its various shades, but sometimes certain parts are black. Head impunctate, interantennal elevations not strongly raised; eyes large. Antennæ hardly reaching the middle of the body; first segment long and club-shaped, second

small, third longer than second hut very slightly (or in some cases distinctly) shorter than fourth; apical segments generally shorter and thinner, but in the different species there is a certain amount of variation from this type of antenna *Prothorax* convex, broader than long, anterior lateral angles generally more or less thickened, the thickening being of various forms, surface generally very finely and more or less sparsely punctate *Scutellum* small, oval, impunctate. *Elytra* convex, almost as broad at base as prothorax, always confusedly and finely punctate, sometimes the punctures are of two different kinds, some being very fine while others are coarser *Underside* anterior coxal cavities open behind, posterior femora thickened, posterior tibise channelled to a certain distance on the outer side and not armed with a spine at the apex, claws appendiculate

Range Europe, Siberia, Japan, Malaysia, Burma

According to Chapuis the insects belonging to this genus have the anterior coxal cavities open behind. I have examined several species referred to Argopus in the British Museum and I find that they have the anterior coxal cavities closed. Not having seen the type of Argopus bicolor, Fischer, I cannot express an opinion as to the coxal cavities. Fischer himself is silent about it. In describing Argopus indicus, Jacoby does not refer to this part of the anatomy at all. On account of the absence of accurate information on this point I have treated this genus separately, without incorporating it in the key on pp. 283–286.

352 Argopus indicus, Jacoby.

Argopus inducus, Jac., Ann Mus Civ Genova, xxvii, 1889, p 194.

Body ovate, convex Colour shining dark brown; the six apical segments of the antennæ, and the apices of the mandibles, black

Head not longer than broad, impunctate, frontal cievations broad and not strongly raised, carina acute, convex, clypeus simple Antennæ very closely approximated, third segment a little longer than second, fifth longer than any of the preceding or following segments Prothorax much broader than long, sides rounded, angles not produced, the anterior pair only slightly thickened, posterior margin distinctly sinuate at each side, broadly rounded, and produced at the middle; surface very closely, finely and rather evenly punctate. Elytra more strongly and rather

Since the above was written, the courtesy of Dr Uvarov has enabled me to see some specimens from Poltava, which have recently been sent to the British Museum and which have been determined by D Oglobin as Argopus bicotor—In these examples the anterior coxal cavities are open—It may be remarked that Poltava is very near Elisabethgrad, whence Fischer originally described the species.

regularly punctate, interstices also with some small punctures, which extend to the lateral margins, where the larger punctures are absent. *Underside* all the femora, and more especially the posterior pair, incrassate.

Length, 5 mm

BURMA · Teinzo (L. Fea)

Type in the Genoa Museum. I have not seen it, but have seen (in the British Museum) examples from Singapore of A. angulu-collis, Clark, to which A indicus is allied, but from which it is differentiated by the shape of the prothorax.

ALPHABETICAL INDEX

All names printed in capital letters indicate families or subfamilies

All names printed in italies are synonyms Generic names begin with a capital letter

When more than one reference is given, the page on which the description occurs is indicated by thickened numerals

In the case of some species not described, but only mentioned, in this volume, the more important reference is also indicated by thickened numerals

abdominalis (Phyllodecta), 83, 84 abdommalis (Spharoderma), mentioned, 322 174, 180, Acrocry pla, 181, 182 acutangula, 317, 321 adomdis, mentioned, 13 ænes, mentioned, 13, 86 ærngmosue, mentioned, 12 affinis (Crepn'odera), 235, 237 aff nis (Phyllotreta), mentioned, 112 affinis (Podontia), 222, 225, 227 affins (Psylhodes), mentioned, 113 Agasta, 2, 4, 16, 56, 57, 83 ahrensi, mentioned, 113 albescens, 360 alboinsemta (Luperomorpin), 362, 363. albojasciata (Nonai thra). 116 117, 119 Allomorpha, 137, 138, almoræ, 335, 342 alpreola, mentioned, 111 Altıca, 202, 273, 316, 366, 390, 391, 417, 418. altı oln, 205, 217 Alytun, 285, 404, 405, amazona, mentioned, Ambrostoma, 16, 44. ampelophaga, 107, 111 Amplimela, 176, 18 183 Amphimela, 164, 250, 251, 300 VOL. IL

Amphimeloides, 284. 309, 310 anchusæ, montioned, 361 andamanensis (Erystus), 271, 272 andamanica (Sebætlie), *3*85, 399 andiewesi (Aphthona) 367, 373, 374 midrewesi (Chrysolina), 20, 31 angelica, 22, 39, 40 angulicollis, mentioned 431 Amcera, 185, 186 (Clulmuoantennata sonn), 188, 189. (Sphæroantennata derma, 318, 324. anu, 337, 359 Apalsha, 17, 95, 96 Aplithona, 104, 112, 267, 268, 282, 285, 286, 334, 363, 366,368,369 *3*70, 371, 372, 373, 374, 375, 376 Aphthonella, 177, 281, 282. Aphthonordes, mentioned, 282 amcalis (Cerotrus), 186 apicalis (Nomethra), 116, approcess (Chabra), apidicornis (Manobia), **407,** 408 apicipennis (Kamala), 256, 357, 258

apiciliennie

thy lea), 311, 312

(Para-

ADICIDONNIE (Sphæroilerma), mentioned, 322 apricai ia, mentioned, 113 Apteropeda, mentioned, 255 areata, mentioned, 13 Argopistes, 113, 296, 207, 298, 200, J00, 301 Argopistoides, 284, 301, 302 Argopus, 113, 286, 429, undella, mentioned, 202 aridula, mentioned, 113 nrmoraciæ (Cln yeomeln), montioned, 59 an moracue (Phaedon), mentioned, 12 urmoracia. (Phyllotreta), mention d. 112 nesumensis (Acrony pia), 180, 182 (Entomoappendinger scells) 93, 95 assamensis (Kumela), 50. 52. assamenses (Euphetrea), 263 assumeners (Liprus), 131 neenmensis (Phaedon), 12. 13, 59 17, 93, 95 assumons15 Asutosha, 170, 238 attenuata (Paylliodes). mentioned, 113, 126 ater, mentioned, 112 atra, mentioned, 112 atrıcılla, mentioned, 333

atripes, 360
atriventris, 367, 368
atropes, mentioned, 133
aujata (Chrysolina), 21,
41, 42
aurata (Crepidodera)
mentioned, 111
azurea, 367, 372

badia (Haltica), nientioned, 382 badıa (Podagrıca), 273, 275 balyı (Eumela), 50, 53 balyı (Hyphasoma), 158, **162**, 163 banksu, mentioned, 43 basalıs, 113 204, 209 belgaumensis, 336, 348, 369 bella, 21, 22, 39, 40 belli, 205, 218 bevanı, 158, 169. bliamuensis, 281, 282 bicolor, 429, 430 bitasciata, 244, 245. Bunala, 175, 195, 196 bimaignata, mentioned, 111 binduta, 230, 233 binotatus, mentioned, 345 (Argopistes), biplagiata mentioned, 296 (Spb.æ10biplaginta derma), 317, 321. bipustulata (Hyphasoma), me fromed, 163 bipustulata (Lactica). 427, 428. (Sebathe). bipustulutu 393, **394** birmanensis, 422 birinanica (Chetocnema), 204, 206 birmanica (Euphitrea), 177, 179 (Luperobirmanica morpha), 362, **36**3 (Nonarthra), oirmai ica 115, 121, **1**22 (Philopona), birinanica 149, 150 birmanica (Phyllotieta), 377 bu manıca (Sphæroderma), 318, 324, 326. birmanicus (Longitaraus), 335, 345 bisignata, mentioned, 69.

bistripunctata, 297, 299, 300 blanda, mentioned, 111 Blephaiida, mentioned, 113, 230, 231, 232, 233 bombayensis, 362, 365. bonvoulours, 35, 36, 37 bowrings, 274, 278 brassica, 13 bretinghami (Chætoonema), 204, 212 brettinghamii (Payllıodes), 125, 126, 127 brevicollis, 385, 400 brevicornis, 318, 323 breviusonia, mentioned, 112 brunnea, 304, 305 burmanica, 260, 264.

cacalize, menisoned, 12 cænotes, 385, 401. cernica (Nonarthra), mentioned, 122 corulescens, 421 cæsia, mentioned, 12 Camana, 428 CAMPTOSOMES, 1 cardoni, 278, 275 caricis, mentioned, 255, 259 carınata (Chi solma), 19, carmata (Haltica), montroned, 111 caroliniana, mentioned, 112 cashmu ensis, 47 Cassidine, 1 celebensis, mentioned, 271 Ceralces, mentioned, 13 Cercyonia, mentioned, 113 Osrotius, 174, 185, 186, 187 ceylonensis(Alytus),404, 405 ceylonensis (Aphthona), 367, 375 ceylonensis (Eucycla), 306 ceylonensis (Nonarthra), 116 123 (Pexederus), ceylonensis 267, 268 (Podagrica), ceylonensis 273, 274

ceylonensis

385, 397

(Sebæthe),

ceylonica (Chrysolina). 20, 30 Oliabria, 281, 284, 312. 313, 314, 315 Chætoenema, 105, 175, 202, 203, 206, 207, 208, 203, 205. 209, 210, 211, 212, 214, 215, 216, 213. 217, 218, 219, 220 Chalænosoma, 174, 187. 188, 189, 190, 191 Chalcolampra, 17, 86. 87, 89 chalybea, mentioned, 111 championi, 337, 358. chapuisii, 250, 252 chennelli, 72, 76. Chilocomstes, 300 Cillamydinæ, 1 chlorina, 69, 70. chotanica, 377, 379 (Pay Ilıchrysocephala odes), mentioned, 113, 124 Ohrysocion, mentioned, 12 Ohry solina, 2-5, 16, 17, 18, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 43, 53, 67, 83 Chi y somela, 2, 4, 6, 8, 11, 13, 16, 17, 18, 34, 35, 29, 40, 41, 43, 44, 40, 47, 49, 50, 53, 54, 59, 60, 61, 63, 64, 67, 68 69, 70, 77, 83, 124, 202, ±20, 22, 225, 234, *3*33, *8*77, 418 CHRYSOMELIDE, I, 99 Chrysoneline, 1, 2, 12, 16, 21, 263 chrysomeloides, 77, 78 cicutrix, mentioned 411 cinctipennis, 64, 66 emgulata, 23 circumcincto, mentioned, 13 citri, mentioned, 113 clayicornis, inentioned, 302Cleonica, 174, 192, 198 liter, 101, 11 252, 253, 254 110, 176 Clitea, CLYTRINE, I Coccinella, 64, 262 Coccinellida, 12 cochlearis, mentioned, 11, 12 cœlestina, 18, 20, 33.

cœrulea (Aphthona), 376 corniea (Haltica), 376, 423 coruleans, 22 corulipes, 21, 34, 35 cognata, 205, 216, 217 Colaphellus, mentioned, 9, 12 collaris, 93, 94. concmna, 112, 202, 220 concinnipenins, 113, 204, 207. confine, mentioned, 113 conglomerata, 21, 37. congregata, 222, 224. consimilis, 22 consumilis, convexa, 86 corni, 112 coromandeliana, 21, 40 costalipennis, mentioned, 111 Crepidodera, 110, 111, 134, 135, 175, 234 embellata, 289, 293 CRIOCERINE, 1, 09 Orioceris, 393 Crosita, 33, 34 crucifere, mentioned, 112 Cryptocephalinæ, 1 CRYPTOSTONES, 1 cucumeris, mentioned, 111 cupiea (Chalænosoma), 188, 190 cupren (Chrysomela) Molasoma], moutioned, 13 (Amphimela), cyanca 183 cyanea (Gastroidea), mentioned, 12 cyanea (Glaucosphæra), 183 oyanea (Haltica), 422, 423 cyanea (Hespera), 137, 1**38. 140** cyane i (Nonarthra), mentroned, 122 cyanescens, mentioned, 111 cyanicoths, 49, 50 eyampennis (Aphthona), oyanıpennıs (Griva), 241. cyanipennis (Longitarsus), 835, 337 OYCLICA, 1

cyparissis, mentioned. 366 Oyphon, mentioned, 329 dakshina (Hespera), 138, 145 dakshma (Nonarthra). 115, 121, 122 decemineata, mentioned, 10, 12 decemmaculata, 149, 155 decemplagiata, 313, 315 Demarchus, 130, 135 democratica, 35, 36, 37. denticulata, mentioned, 113 dentipes, mentioned 202, 219 dhumala, 115; 121. dhusara, 158, 167. dimidmta, 268 depa, 87, 89 Diphyrrhynchus, 23 discicollis, 317, 319 discipennis, 150, 159, 169 discordalis (Hyphneoma), 139, 169, 170 discorden, 362, 364, 366 Disonycha, mentioned, 113 distructa, 158, 164 divarna, 238, 239 divisa, 61, 66 dohertyi (Chrysolina), 20 27 doherty: (Podagrica), 274. 280 dohrm, mentioned, 177 DONACHNE, 1 (Amphunedoranlis loides), 309, 310 dorsalis (Elytropachys), 289 dorsalis (Longitarsies), mentioned, 361 dorsalis (Manobia), 407, 409 dorsata, 413, 414 downess, 377, 380

ectypa, 105, 118 elata, 47

289, 290, 291

71, 72, 73, 74

duvivieri, 204, 208

duodecimpustulata,

duodeciminaculata, 288,

13,

elongata, 384, 395 Elytropachys, 176, 267. 268, 269 engström, mentioned, 111 Enneamera, 114, 115, 116, 117, 122, 128 Entomoscelis, 13, 17, 93, 94, 95 Epitrix, 105, 111, 130, **133**, 131, 135 ernem, mentumed, 111 Erystns, 176, 195, 196, **271**, 272 erythropus, mentioned, 111 Eucycla, 284, 305, 306, 328 Eudolia, 175, 198 199. 200, 201 Eumela, 16, 46, 47, 49, 50, 52, 53 Eunolpinæ, 1, 100 Euphitien, 174, 177, 178, 179, 283 euphorbim (Aphthona). 104, 112, 376 (Haltica), euphorbiæ mentioned, 111 Euphymasia, 177 Europes, 1 exanthematica, 2, 3, 4, 5, 19, 22 exclamationis, mentioned, 12

fallaciosa, 47, 48, 49 fastuosa, mentioned, 5 few (Hyphasis), 170, 171 femoralis, 158, 164 ferrugineus, mentioned. 12 fimbriata, 384, 392 flaviceps, mentioned. 112 flavipennis, 256, 259. flaviventris, 362, 363 flavolumbata, mentioned, 388 flevoplagata (Plutodecta), mentumed, 77 flavoplagiata (Sphæroderma), 320, 321 flavopustalata, 232. foliacea, mentioned, 111 formosa, 56 57, 83 formentus, mentioned, 13

fortunes, mentioned, 44 fovercollis (Euphitrea), 177, 179 fovercollis (Haltica), 419. frontalis. mentioned, 111 fulva (Neorthaea), 260 fulva (Parlina), 426 fulva (Sphæroderma). 329 fulvipennis (Ivalia), 330, 332 fulvipennis (Morylus). 381, 382 fulvipennis (Philogens). 405, 406 (Schæihe), fulvipennis **390,** 391 fulvipennis (Spliæroderma), 318, 329 fulvipes, 194, 195 fulvitarsis, 188 fulvomnea (Chrysolina), 20, 31 fulvobrunneus, 355, 356 fulvoniger, 131, 132 fumidus, 335, 344 fuscipes, mentioned, 278 fuscula, mentioned, 111

gananı, 28 Galeruca, 202, 423 GALFRUCIN P, 1, 98, 99, 100, 177, 187, 194 Galleruca, 220, 222, 227 Gastroidea, mentioned, 6, 12 gavira, 336, 349. geminata (Sphæroderma), 317, 319 geminatus (Diphyrrhynchus), 23 generosa, 290, 291 genrculata, 209 glabrata, mentioned, 112 Glaucosphæra, 174, 183, gloriosa, mentioned, 12 gola, 336, 353 Gopala, 176, 240 gossypii, mentioned, 113 gracilenta 329, 330 gracilis, 205, 220 grandıs 220, 222 Graptodera, 418, 419 420, 421 424 Griva, 176, 241 grutu, 41, 42 quitata (Chrysomela) 22

guttata (Ophrida), mentioned, 228 guttata (Pentamesa), 291, 292

Haltrea, 104, 106, 107, 111, 112, 202, 231, 286, 318, 329, 376, 332, 411, 418, 419, 420, 421, 422, 423, 424, 427 HALTICINE, 1, 97, 98, 99, 100, 114, 177, 187, 194, 197, 221, 225, 194, 19 250, 263 harita, 204, 211 hai oldi, 289, 291, 292 helxines, mentioned, 110 Hermæophaga, 285, 411, Hespera, 180, 137, 138, 139, 140, 141, 142, 189, 14 148, 144 bioroglyphica, 13, 72, 73, 74 himalayensis (Apaksha), himalayensis (Eudolia), 199 hma, 336, 347. hırsuta, 130, 174, 229, 230, 231 hirtipennis, 134, 135 Hispinæ, 1, 6, 98 hookers, 413, 415 mentioned bortensis. 112, 202 hudsonias, mentioned, 111. hngeli, 367, 371. humeralis, 286, 287. Hydropus, 202 Hyphasis, 100, 145, 146, 155, 157, 159, 162, 163 164. 168, 169, 170, 171, 172 89, 145, Hy pliusoma 157, 149, 156, 159. 161, 160, 162. 163, 164, 165, 167, 166. 168, 169 170, 171, 172, 173, 383 Hypnophila, 255, 256, 257, 258, 259

ignita, mentioned, 111
immaculata, 385, 396
impressicollis, 227, 228
incertinin, mentioned
12

inconspicua, 156 159. 173. Inconstans, 21, 35, 36, 37, 38 ındıca (Aphthona), 367, 373 ındıca (Bımala), 196 indica. (Chætoenema), 215 indica (Chrysolina), 19, 24 indica (Clitea), 254 indica (Euphitrea), 177. 178. ındıca (Hermæophaga), **411,** 412 indica (Hyphasoma), 158. **165,** 170 (Paradiboha), ındıca 294, 295, 296 ındıca (Paralına), 46, 47. 48, 49 indica (Phygasia), 413, 415 indica (Pseudolina), 90, 91. indica (Sphæroderma). mentioned, 329 indicus (Argopus), 430, **43**1 indicus (Erystus), 195, 196. mornata (Hyphasoma), 159, 172, 173 (Philopona), inornata 149, 151. intermedia (Acrocrypta), 180 (Epitrix), intermedia mentioned, 133 (Hyphaintermedia soma), 159, 173 (Sebæthe), intermedia 385, 396. 10baphes, 384, 388, 389, 390 108copa, 384, 390 Ivala, 285, 330, 331, 332

Jacobyana, 284, 302, 303 jamaicensis, 106 japonica, mentioned, 156 javana, mentioned, 329 jole, 28

Kamala, 176, 255, 276, 257, 258, 259

lanarensis, 334, 367, 368
laniku, 205 216, karachia, 21, 38
krislina (Hespora), 138, 144, 145
krishna (Longitarsus), 385, 340, 341
krishna, 20, 29, 30, 31

Lactica, 286, 426, 427, 428 lævicollis, 256, 258 længata (Argopistis), 299, 300 læviguta (Disonycha), mentioned, 112 lævipunctata, 22 Lauprosomine, 1 inmprotes, 297 Lanka, 281, 304, 305 lapponica, mentioned, latissima, 267, 268, 269 Lema, mentioned, 99 Leptinotarsa, mentioned, 10, 12 lewisi (Aplithona), 367, 372 lowisi (Lougitaraus), 335, 342 Imbatipennis (Hyphasoma), 159, 169 imbatipennis (Nonarthra), 110, 122 · limbatus, mentioned, 208 Lana, 47, 53, 55, 67 lineatopunctata, mentioned, 13 Liprus, 99, 130 hratus, 335, 343 Latkoptera, 22 lohita, 336, 352 lomasa (Epitrix), 134, lomasa (Hespera), 138, longicornie (Chrysolina), ngicoi nis (Longi-tursus), 336, 354 longicoi nis longipunctata, 403, 215 100, 101, Longitarsus, 285, 106, 107, 112, 333, 834, 137, 338. ძ39, 340, .,41, 342. 315, 843, 344, 346. 348. 349. 370. 351, 352. 353. 354,

355, 357, 358, 356, 359, 300, 361, 366, 388, 369 Laper omut plia, 102, 112, 197, 285, 286, **361**, 362, 363, 364, 365 Inscn, 384, 393 lutea, 220, 222, 225 luteola, mentaoned, 125 Lycaria, 17, 85 lychnites, 365, 398 Lygaria, 85 Lythrara, mentioned, 237 lythra mentioned, 424

madrasm, 20, 32

aranerificat (Longitarsus), 336, **347** madurensis (Podagrica), 274, 279 magica, 145, 146, 147, 148 mahesa, 44 malina, 336, 349 inslym, mentioned, 110 mandals, 149, 150 mandarenas, 318 327 manipurensis, 18, 20, 27 manipulia, 77, 79, 81 Manobia, 285, 407, 408, 409 Mantura, 254 marginalis, mentioned, 111 marginata, inentioned, 24 marginipennis, 61, 62 maritima, 112 marmorea, 229, 231 marseult, 22 Medonta, 426 Megalopodina, 1 MEGABOELINA: 1 Mergenia, mentioned, 6, melaleuca, mentioned, melanocephalus, mentroned, 185 Melasoma, 2, 4, 6 13 16, 17, 66, 67 mellicollis, mentioned, Mesopa, 174, 194, 195 metalica (Entomoscelis), 17, 93 95

metallica (Ivalia), 330,

331, 332

metallics (Xuthen), 246, sona), 187, 188, 191 metalheus (Tegy 1103), 400, **41**0 micinis, 180, 260, 263 micantipennis, 61, 64 Miciaphthona, 175, 194, **197**, 198 miniaticollis, 61, 63 minuta (Chatomena), 205, 214, 215 minuta (Crapidadera) 234, 235 Mmophile, 286, 428, 429 Meiophilites, 255 modesta, 23 momenta, 180, 181 (Chretomontivaga cnema), 201, 211 (Sebæthe), montirage 385, 399 morio, o61 Morylus, 285, 381, 383 monhoti (Acroorypta), mentioned, 180 mouhoti (Amphimela), 250, 251 (Philopona), mouhoti 148, 149, 152, 153, 151 mouhote (Podontea), 23T muscorum, mentioned, 428, 429 musiva, 22 mutabeles (Chrysomela), mentioned, 34

nogaja, 192 nagnurensis, 204, 208 napi, mentioned, 113 neclys, 385, 401 nemorum, mentioned, 103, 112, 377 Neot three, 99, 176, 179, 269, 260, 261, 262, 263, 264 nepalense, 41 nepalensis, 21, 43 nigrica, 205, 219 nigriceps (Nonarthra), mentioned, 118, 122 migi icoriiis (Hypha-ouin), 159, 170, **171** nigricorms (Sebsethe), **386, 403** nigrilabris, 367, 370

nigripennis (Orepidodera), 235, 237. nigripennie (Haltica), **42**0 nigripennis (Longitarsus), 101, 112, 335, 338, 339 (Luperonigripennis morpha), 362 nigripennis (Manobin), mentioned, 407 nigripeunis (Phygasia), 413, 417 nigripennis (Podagrica), 274, 277, nigripes (Hespera), 138, 143, 144, 145 nigripes (Phyllotreta), mentioned, 112 nigristi iga, 297, 301 nıgrıta (Aphthona), 376 mgrita (Micraphthona), 197 nigrita (Spliæroderma), 318, 323. nigritarsis, 385, 403. nigroznea, mentioned. 111 nigrocilla, mentioned, 359 nigromarginatus (Aigopietes), 297, 300 mgromarginatus (Cero trus), 186 nigronocatus, 335, 344 nigroplagiata, 312, 313, 314 nigropunctata, 72, 74, 75 nıla (Eudolia), 200 nıla (Paradibolia), 294, 296 nıla (Sebæthe) 384 386. nilapita, 158, 160 nılgırıensis (Aphthona), 367, 369 nilgirionsis (Fantlurus), 209, 270. nilgimensis (Philopolia), 149, 152 Nesotra, 110, 273, 275, 276, 277, 278, 279, nitidula, mentioned, 234 Nonarthra, 98, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123 nonstriata, mentioned 112

obscurata, 269 obscuripennis, 158, 168 obscurofasciata, 235, 236. oohraceicornis, 336, 353 ochroleucus, 106, 107 Ochrosis, mentioned, 237 octodecimentata, 87, Œdionychis, 148. 150 151, 152, 153, 156 oleæ, mentioned, 113 olernces, mentioned. 104, 111, 418 oncora, 377, 378 Ophrida, 180, 174, 175, 228, 230, 231, 232, 233 or biculata, 329 Oreina, mentioned, 12 orientalis (Chrysomela), 34, 35 orientalis (Crepidodera). 235, 236. otientalis (Pseudodera) 244 omentalis (Splimroderma) 318 327. orientalis (Xuthea) 246, 247, 248, grnata, 412, 413, 414 ornatipennia, 317, 320, **32**1 ORSODACNINE, 1, Orthaea, 176, 259, 260,

pagana, mentioned, 112 palleula, 125 pallidicineta, 384, 388 pallidicornis, 318, 322, 324 pallidipennis, 390, 391 pandura 337, 357 Paniluius, 176, 269, 270 Papilio, mentioned, 11 Paradibolia, 93. **294**, 295, 296 Paralum, 10, 46, 47, 48, 53 Paraphaedon, mentioned, 6, 12 Parathrylea, 284, 310, pardalis, 71, 72 parıa, 360 Parlina, 286, 424, 425,

Paropsides, 13, 17, 71, 72, 73, 74, 75, 76 Paropsis, 71, 73 parvula (Chætocnema). 209 parvula (Epitrix) 105, 111 parvula (Hyphasima), 159, 170, 171 parvulus, mentioned, 112 puscoer, 34 patkara (Nonarthra), 115, 119, j21 patkua (Sebæthe), 385, 402 283, 288, Pentamesa. 289, 290, 291, 292, 293 perata, 384, 391 per forata, 21, 43, Pexodorus, 176, 267. 268Phaedon, 2, 4, 11, 12, 13, 16, 59 Phaedonia, mentioned, Phælota, 176, 280, 261 Philogeus, 285. 406. 145. Philopona, 150, 151, 152, 153, 154, 155, 156 Phratora, 83 Phygasia, 286, 412, 415, 414, 415, 416, 417, 418 Phyllodecta, 6, 13 17, 83 103, 104. Phyllotreta, 112, 285, 362. 379. 377, 378, 365, 380 Phytodecta, 11, 12, 13, 17, 77, 78, 79, 80 (Jacoby ana), piceicollia 302, 303 (Sphæropiceicullia derma), 318, 326. presipennis, mentioned, 170 picina, mentioned, 113 pieta, 101, 110, 252, 253 pıngala, 385, 402 pita, 240, 241 pitalohita, 222, 224 Plagiodera, 2, 4, 6, 13, 16, 60, 61, 62, 63, 64, 65, 66 67, 262, 263 plana, 125, **12**8 mentioned, Platypria, 98

Pleotrosceles, 112, 202 Podagrica, 110, 176, 273, 274, 275, 277, 278, 279, 280 276, Podontia, 102, 113, 175, 230, 222, 223, 224, 225, 227, 228, 229, 224, 231, 233 polita (Haltica). 424 polita (Potaninia), mentroned, 92 polygoni, mentioned, 6, populi, 6, 7, 8, 11, 13, 17, 67, 68, 83 Potaninia, 17, 92, 93, 94, 95 probata, mentioned, 111 proxima, 367, 374 Pseudaphthona, 283, 286. 287 Pseudodera, 176, 241. 242, 243, 244, 245, 249 Pseudolina, 17, 90, 92 Psylhodes, 98, 100, 113, 124, 125, 126, 127 128, 129 pubescens (Epitrix), mentioned, 133 pubipennis, 135, 136 pulicaria, mentioned, punctato-striatue, men tioned, 130 punoti, 336, 350 punoticollis, 205, 220. punctulata (Psylliodes), mentioned, 113 pusaensis, 113, 203, 205. pusilla, mentioned, 112 pyrobapta, 384, 387. pyrrhopyga, 21, 43

quadri-impressum, 44 quadrimaculatus (Argopustes), 297, 298 quadrimaculata bæthe), 384, 394. quadriplagiata, 192 quad : pustulata (Eucycla), mentioned, 305 quadripustulata (Sebæthe), mentioned, quatuordecimpunuaid, 102, 113, 222, 225. quinqueviltata, mentuoned, 112

rajah, 53, 54 rama (Pecudolina), 90, 92 rangoonensis, 336, 346 ratula. 199, 201. recticollis (Longitaraus), 336, 352 (Sebathe), rectucollis, 384, 386, rhoss, mentioned, 113 ross, mentioned, 112 rufesceus, 61, 64, 65 ruficolle, 420 355. ruffpennis, 337, 356 ruppes (Ohrysomela), mentioned, 77 rufipes (Crepidodera), mentioned, 111 137, rufipes (Hespera), 138, 139, rnfithorax, 138, 141 rufocastanes, 222, 223, 224 rufopicta, 329 rugicollis, 256, 258

SAGRINZ, 1 salicarise, mentioned, 237 BRT1, 336, 350 schreineri, mentioned; scripta, menitoned, 18 scutelinta (Enneamera). 116, 117, 119 Sebsihe, 135, 285, 382 383, 386, 387, 388, 389, 390, 391, 392, 393, 394, 895, 396, 397, 398, 399, 400, 401, 402, 403 semiræi ules, 273, 276. semifasciata, 280, 281 semifulva, 29, 30 semipiceus, 420 separata, 41, 43 septempunctata, 301. 802 sericea ' (Altomorpha). 143 sericen (Hespera), 187. 139**, 139.** sexvitatus, mentioned, 118 shima, 149, 153 shıra, 125, 128 signata, 149, 165, 156 oilacea, 427 simplex, 360 eingala (Chetocnema), 204, 212

singhala (Longitareus), 335, 341 sinuata, mentioned, 112 erta, 158, 166 BIVA, 77, 80 sophia, mentioned, 9, speciosa, mentioned, 12 speculifera, 22 Spherodorma, 108, 109, 181, 285, **316**, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 393 Sphærohna, 16, 49, 53, 54, 55 Sphærometopa, mentroned, 100, 180, 181 Spherophysa, mentioned, 302, 303 Sphæropleura, 176, 265 splendida, mentioned, *3*73, squarrosa, 216, 217 staphylea, mentioned, 17, stevensi, 21 39. streta, 205, 213. striatipennis, 274, 277. strigatus, 335, **34**8 subænea, 22, enhoostata, 204 216 subcrinita, mentioned, 111. subfaciata, 290, 291 subglobosa, 260, 262 submetallica, 99, 156, 158, **16**1 sumatrana, mentioned, sumatrensis, mentioned, 122 sındara, 337, 356. super ba, mentioned, 12 suturalis, 385, 397. sutura nigra, 335, 359. sulurelius, 335, 360. Synerga, mentioned, 17, **21, 22, 40** Systems, mentioned, 111

tænista, mentioned, 111
tavoya, 336, 351.
Tegyrius, 285, 409,
410
Temodactila, 333, 338,
359, 360, 361
Temodactyla, 393.
templetoni (Ohrysolina),
20, 28.

templeton: (Sphærolina). 54, 55 tenebrosus, 124, 125, 129 tenuilmbatus, 158, 163, 168 terminata, 318, 324 testacea (Altica), mentioned, 316 testacea (Spheroderma), 108, 109, 329, 330 thoracica, 158, 162, 163 Thrylea, 284, 307, 308 Thyamı, 333 tibialis (Chatocnema), mentioned, 113 tibialis (Philopona), mentioned, 148 Tlanoma, 202, 205, 219 toi quata, mentioned. 112 trancisa, 424, 425. transversa (Orepidodera), transversa (Plagnodera), 61, 67 transversicollis, 50, 52 tremnia, mentioned, 6, triangularis, mentioned. 112 TRICHOSTOMES 1 tricostata, 265, 266 triginplia, 289 292 triloch ma, 77, 81, 82 tuvialis, incutioned, 361 troglodytes, 384, 390, tumidulus, mentioned, 6, 12

Udorpes, 20

ulmi, mentioned, 112
undulata, mentioned,
112
undulatovitiatus, 338,
361.
unicolor (Hyphasoma),
150, 172, 173
unicolor (Phygasia), 413,
417
uniforma, mentioned,
110

variabilis (Nonarthra) 114, **116**, 117, 118, 119 variabilis (Schathe), 393, 394 variabilis (Thrylea), 307 308 varicornia, illentioned, 112 Tai ipeniis, 318 325 varipes, 315, 328 sentista, mentioned, 12 ver sicolor, G reisicolora, 60 61 vicina, 367, 375 viminalis, ii cutioned, 11, 12, 13 uiolareipennis (Kamala), 255, 266, 257 (Phyviolaceipennis gasın), 413, 418 vnecens, 64, 66 vii idnia 125, 126 111 descoi 8, 260 viridicyanes, 422 viridifusen, 376 (Ivalue), Structodipulia 330, 332 viridipennis (Neoi thaea), 99, 259, 260, 264. viridipenius (Spheroderma). 329

viridis (Chalænosoum), 188, 190. viridis (Plinedon), mentioned), 12 viridula, mentioned, 12 vichnu (Chrysolina), 18, 19**. 23.** vitelling, mentioned, 6, 13, 83 vittata (Luperomorpha), 362, 365 vittata (Phyllotreta). mentioned, 112 vittigera, mentioned, vittula, mentioned, 112 vulgatissima, mentioned,

wallness, mentiched, 177, 178 uesser, 102, 112, 362, 363 westermanni, 85, 86

Xanthocycla, 250, 252
Anthomolema, mentioned, 112
xanthospila, mentioned,
243, 245
Xenomela, mentioned,
96
Authea, 176, 246, 247,
248, 249

Ydorpes, 202

Zomba, mentioned 118 Zygogramma, mentioned, j2

INDEX OF PLANTS.

Aconite, 111 nouleata (Pereskia), 372 acutus (Rumex), 111 Ægle, 110 Alder, 111 Alnus, 71 Althea, 110 Amaranthus, 112 muilolitangns (Eptlobium), 111 Ansomeles, 164 antidysentenca (Holarrhina), 232 Apple, 76, 111 Artichoke, 113 arvence (Cusinn), 105 Aspen, 13 Aster, 111 Atropa, 113 aviculare (Polygonum),

Bacl, 110
Barloy, 106, 113
Bean, 111
beccabunga (Veromea), 11
Bect, 111, 112, 113
Beta, 112
biennis (Œnoihera), 111
Blueberry, 112
Boswellia, 230
Brinjal, 127
Burserace E, 230

Cabbage, 104 111, 112, 113 Oncuo, L11 Cactus, 372 Cardamme, 11 Ourrot, 111 Oplastraceæ, 66 Centaurea, 110 Oluerophylinm, 12 championis (Gymnosporta 66 Cherry, 232 Ohickweed, 113 Chrysanthemum, 111 Oirsium, 105 YOU II.

Ourns, 113 Clover, 111, 113 Cochlearn, 11, 112 Cotton, 13, 86, 110, 113 Crees, 112 Caucifere, 9, 12, 104, 113

Desett corn, 105, 113
Desett Primrose, 111
dilatata (Quercus), 348
Dock, 12
Dog-wood, 112
Dudhi, 370
dulcis (Spondins), 103
113

elastica (Ficus), 173
Elm, 112
Epilobium, 104, 111
erecta (Jussi cn), 106
Emphorbia, 104
eximius (Enothera), 111

Ficus, 119 Flax, 104, 111, 112

Galeopeis, 5 Geraidina, 248 glaziuui (Manihot), 12 Giape, 111 Grupe-vine, 12, 111 Gruss, 106, 217, 363 Gugui, 230 Gyunnosperia 60

Hazel, 107
Henrp, 112, 113
Heracleum, 12
Holarrhina, 232
Holly-hock 110
Hop, 112, 113
Horse radisk, 12, 112
Hyosoyhmus, 118

Iris, 112

Jussian, 106

Lantana, 33

leptocarpa (Jussies' 106 leptocaulus (Opuntia), 112 Lucerne, 13, 106. Lycium, 113

Maize, 106, 111, 112, 113 mangilera (Spondias) 102, 113 Mango, 103, 112 Mangold-wurzel, 113 Manihot, 12 marmelos (Ægle), 110 Marsh-mallow, 110 miliaceum (Panicum). 118, 206 Millet, 113, 200 Melon, 111 Moss, 428 Mulberry tree, 112 Mustard, 12, 112

Nasturtum, 11 Nottle, 113 nigram (Piper), 101

Oak, 111.
Oats, 113
CEnothera, 104, 111
officinalis (Aithma), 110
Oirve trees, 113
Opuntia, 112
Oryza, 113
Osier, 13
ovata (Anisomeles), 164

Pachylophus, 111
Paddy, 113, 206
Panicum, 113, 206
Pea, 111, 112, 113
Peach, 111
Pear, 13
Pepper, 101, 112
Pereskia, 872
Piper, 101
Polygonum, 12, 111
Poplar, 13
Potato, 12, 111, 112

Quercus, 348.

Badish, 112, 113
Rape, 111, 113
Rhubarb, 112
Rhus, 113
Rico, 113
Rose, churbing and wild, 111, 112
roses (Althrea), 110
Rumex, 111

Salıx, 13, 62 San, 348 serrata (Boswellia), 230 Sisymbrium, 104 Solanum, 10, 113 Solidago, 112. Sorrel, 12 Soy bean, 112, 113 Spinach 112 Spirma, 111 Spondins, 102, 113 Spring corn, 112. squairosa (Solidago), 112 Strawberty, 111, 112 Sudan grass, 106, 113 auffruticosa (Justica), 106 Sugar-beet, 12, 111, 112 Sugar-cane '0b. Sumac, 113 Sunflowe , 12 Sneet-putato, 113

tetralut (Galeopsis), 5 Tobacco, 105, 111 Tomato, 111, 113 Turnip, 12, 13, 103, 112

ulmarız (Spirea), 111 Umblilifika, 12 Urtica, 248

Veronica, 11 Vetch, 112, 113 Virginian Stock, 13

Watercress, 12 Wheat, 38, 106, 112 Willow, 13, 62, 110, 111